? Not sure what DN #'s identify in set (Not same as other

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FILE COVERS 1907 - 20 Jun 2003  VOL 138 ISS 26
FILE LAST UPDATED: 19 Jun 2003  (20030619/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


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=> d stat que l21
L1          120 SEA FILE=REGISTRY ABB=ON  PLU=ON  PALMI?(L)OXY?(L)PROP?
L5          114 SEA FILE=REGISTRY ABB=ON  PLU=ON  GQTNT/SQSP
L6        20304 SEA FILE=REGISTRY ABB=ON  PLU=ON  SKKK/SQSP
L7           37 SEA FILE=REGISTRY ABB=ON  PLU=ON  GNNDESNISFKEK|GNNDESNISFKEK|G
               QTDNNSSQSQQPGSGTTNT/SQSP
L8         4034 SEA FILE=REGISTRY ABB=ON  PLU=ON  PALMI?
L9       110354 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 OR L8 OR PALMI?(L)OXY?(L)PR
               OP?
L10          69 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L5
L11        4288 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6
L12          20 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7
L13          71 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L10 OR L11 OR L12) AND L9
L19          26 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 AND ?LIPOPRO?
L20          16 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 AND (FATTY(W)ACID)
L21          33 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L19 OR L20
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SEQ's + STR.

Abstract PLURAL

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=> d ibib abs hitrn l21 1-33

L21  ANSWER 1 OF 33  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2003:409169  HCAPLUS
DOCUMENT NUMBER:          138:380506
TITLE:                    Genes that are differentially expressed during
                          erythropoiesis and their diagnostic and therapeutic
                          uses
INVENTOR(S):              Brissette, William H.; Neote, Kuldeep S.; Zagouras,
                          Panayiotis; Zenke, Martin; Lemke, Britt; Hacker,
                          Christine
PATENT ASSIGNEE(S):       Pfizer Products Inc., USA; Max-Delbruck-Centre for
                          Molecular Medicine
SOURCE:                   PCT Int. Appl., 285 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
```

FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003038130	A2	20030508	WO 2002-XA34888	20021031
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
WO 2003038130	A2	20030508	WO 2002-US34888	20021031
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRIORITY APPLN. INFO.: US 2001-335048P P 20011031
US 2001-335183P P 20011102
WO 2002-US34888 A 20021031

10

AB The present invention provides mol. targets that regulate erythropoiesis. Groups of genes or their encoded gene products comprise panels of the invention and may be used in therapeutic intervention, therapeutic agent screening, and in diagnostic methods for diseases and/or disorders of erythropoiesis. The panels were discovered using gene expression profiling of erythroid progenitors with Affymetrix HU6800 and HG-U95Av2 chips. Cells from an in vitro growth and differentiation system of SCF-Epo dependent human erythroid progenitors, E-cadherin+/CD36+ progenitors, cord blood, or CD34+ peripheral blood stem cells were analyzed. The HU6800 chip contains probes from 13,000 genes with a potential role in cell growth, proliferation, and differentiation and the HG-U95Av2 chip contains 12,000 full-length, functionally-characterized genes. [This abstr. record is one of two records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.].

IT **179311-56-9**, Protein (human gene RPGR) **180191-82-6** **182702-40-5** **185767-32-2** **189642-86-2**, Phosphoprotein (human gene TCOF1) **194499-55-3** **385849-56-9**, Ral-interacting protein RLIP76 (human) **391961-03-8** **391961-09-4** **391961-67-4** **391961-84-5** **391962-38-2** **391963-09-0**, Helicase II (human gene RAD54L) **391966-47-5** **391967-26-3** **391974-50-8**, Protein (human clone hhmg2 gene HMG-2) **443407-73-6** **443408-32-0** **444956-44-9**, FRAP-related protein (human gene FRP1) **444967-65-1**, Chloride channel 3 (human gene CLCN3) **444967-66-2**, Chloride channel 3 (human gene CLCN3) **459522-10-2** **459549-85-0** **459550-13-1** **459577-11-8** **459587-60-1** **459589-43-6** **459612-69-2** **459705-15-8**, GenBank U10324-derived protein GI 532315 **462284-98-6** **462694-01-5** **479328-49-9**, HNop56 (human cell line Hela) **479329-32-3**

479476-90-9 479915-96-3 480126-25-8
480130-18-5 480287-53-4, CENP-E (human clone CENPE)
480594-22-7 480633-75-8 480649-16-9, Beta
adducin (human clone K11, K3) **480659-47-0 480689-37-0**,
Protein (human gene NC2) **480901-28-8**, Protein (human clone P1
gene hMSH6) **480905-69-9 480908-84-7**
480908-99-4 480909-09-9 480909-10-2, DNA
topoisomerase I (human) **480943-34-8**, Nucleoporin 98 (human gene
NUP98) **480943-40-6 480944-06-7**, Diacylglycerol kinase
zeta (human) **481152-07-2**, HPAK65 (human gene hPAK65)
481172-22-9 481173-78-8 481175-34-2, Protein
(human gene FRG1) **481177-18-8 481183-06-6**
481196-01-4, Adducin gamma subunit (human) **481221-38-9**
481221-96-9 481224-36-6, DNA topoisomerase II (human
gene TOP2) **481227-69-4 481236-59-3 481244-51-3**
481281-40-7 481285-70-5, Protein (human gene EIF2)
481302-94-7 481305-58-2 481315-59-7, Protein
(human gene TOP2A) **481316-30-7**, Transketolase (human gene tk)
481326-92-5, Protein (human cell line MRC-5 V2)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(amino acid sequence; genes that are differentially expressed during
erythropoiesis and their diagnostic and therapeutic uses)

IT **169725-13-7 391562-99-5 391789-71-2**
392022-58-1
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
(nucleotide sequence; genes that are differentially expressed during
erythropoiesis and their diagnostic and therapeutic uses)

L21 ANSWER 2 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:356640 HCAPLUS
DOCUMENT NUMBER: 138:380471
TITLE: Genes that are differentially expressed during erythropoiesis and their diagnostic and therapeutic uses
INVENTOR(S): Brissette, William H.; Neote, Kuldeep S.; Zagouras, Panayiotis; Zenke, Martin; Lemke, Britt; Hacker, Christine
PATENT ASSIGNEE(S): Pfizer Products Inc., USA; Max-Delbruck-Centre for Molecular Medicine
SOURCE: PCT Int. Appl., 285 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003038130	A2	20030508	WO 2002-US34888	20021031
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2003038130	A2	20030508	WO 2002-XA34888	20021031

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-335048P P 20011031
US 2001-335183P P 20011102
WO 2002-US34888 A 20021031

AB The present invention provides mol. targets that regulate erythropoiesis. Groups of genes or their encoded gene products comprise panels of the invention and may be used in therapeutic intervention, therapeutic agent screening, and in diagnostic methods for diseases and/or disorders of erythropoiesis. The panels were discovered using gene expression profiling of erythroid progenitors with Affymetrix HU6800 and HG-U95Av2 chips. Cells from an in vitro growth and differentiation system of SCF-Epo dependent human erythroid progenitors, E-cadherin+/CD36+ progenitors, cord blood, or CD34+ peripheral blood stem cells were analyzed. The HU6800 chip contains probes from 13,000 genes with a potential role in cell growth, proliferation, and differentiation and the HG-U95Av2 chip contains 12,000 full-length, functionally-characterized genes. This abstr. record is one of two records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.

IT **182239-46-9**, Histone H1x (human clone pACTWDA6)
188834-17-5 191878-64-5 191878-75-8
191879-26-2 199619-80-2 211556-65-9, Protein
(human clone KIAA0649 reduced) **214550-97-7 216151-04-1**
, KIAA0739 protein (human gene KIAA0739) **222963-22-6**
222963-48-6 222964-02-5 226890-43-3
353581-46-1 385849-41-2 444953-68-8, Protein
(human 3261-amino acid) **445047-04-1 459502-07-9**
459522-09-9 459627-74-8 459632-75-8
459640-92-7 459655-39-1 459665-17-9
459669-82-0 459671-17-1 459727-84-5, Protein
HPAST (human gene HPAST) **462293-44-3 462326-38-1**
462338-00-7 479329-84-5 479329-86-7
479968-85-9 479974-14-6, Protein (human 492-amino acid)
480288-49-1 480288-53-7 480678-17-9
480678-88-4, Steroid receptor coactivator 1e (human)
480787-78-8 480913-92-6 480917-09-7, Tapasin
(human gene NGS-17) **480933-31-1 480936-90-1**
480936-91-2 481129-41-3 481129-66-2, Fls353
(human gene fls353) **481134-96-7 481146-94-5**
481147-46-0 481147-58-4 481147-74-4
481147-85-7 481149-05-7 481151-81-9
481247-98-7 481262-19-5
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; genes that are differentially expressed during erythropoiesis and their diagnostic and therapeutic uses)

IT **197828-45-8 197828-46-9**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; genes that are differentially expressed during erythropoiesis and their diagnostic and therapeutic uses)

L21 ANSWER 3 OF 33 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:301250 HCAPLUS
DOCUMENT NUMBER: 138:298915
TITLE: Genes and proteins for prevention, prediction, prognosis and therapy of cardiovascular disease
INVENTOR(S): Munnes, Marc; Gehrmann, Mathias; Wick, Maresa; Schmitz, Gerd
PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 446 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003031650	A2	20030417	WO 2002-EP11034	20021002

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: GB 2001-24145 A 20011008

AB Genes that are differentially expressed in blood vessels of cardiovascular disease patients vs. blood vessels of normal people are disclosed. Specifically, 74 genes genes are identified that are differentially expressed in cardiovascular disease states, relative to their expression in normal, and/or in response to manipulations relevant to cardiovascular disease (e.g., incubation of isolated macrophages in the presence of enzymically modified LDL). In particular, genes that are up- or down-regulated in macrophages of patients with inherited predisposition for arteriosclerosis are disclosed by the differential expression approach with DNA array technol. and TaqMan anal. The genes provide novel methods, uses and compns. for the prediction, prevention, diagnosis, prognosis, and treatment of cardiovascular disease.

IT **510778-39-9**, Chymotrypsin inhibitor, .alpha.1- (human)
RL: ANT (Analyte); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; genes and proteins for prevention, prediction, prognosis and therapy of cardiovascular disease)

IT **9014-34-0**, Stearoyl-CoA desaturase
RL: ANT (Analyte); DGN (Diagnostic use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(genes and proteins for prevention, prediction, prognosis and therapy of cardiovascular disease)

L21 ANSWER 4 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:221864 HCAPLUS
DOCUMENT NUMBER: 138:249732
TITLE: Gene expression profiling for identification of disease genes for use in drug screening and therapy
INVENTOR(S): Bristow, Michael R.; Minobe, Wayne A.; Lowes, Brian D.; Perryman, Benjamin M.
PATENT ASSIGNEE(S): The Regents of the University of Colorado, USA
SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003023066	A1	20030320	WO 2002-US28808	20020911

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003096782	A1	20030522	US 2002-241368	20020911

PRIORITY APPLN. INFO.: US 2001-318854P P 20010911

AB A method for identifying genes involved in development, progression, and/or maintenance of a disease comprises comparison of gene expression profiles of samples from healthy and diseased subjects and/or from treated and untreated diseased subjects. The methods may be applied to the identification of genes involved in cardiac disease states. Through the identification of new targets, addnl. methods for drug screening and therapy also are provided. Thus, the method was applied to patients exhibiting dilated cardiomyopathy and those with the disease after treatment with .beta.-blockers. One hundred thirty six genes which were up- or down-regulated were identified.

IT **216151-04-1**, KIAA0739 protein (human gene KIAA0739)
333373-54-9, Nebulin (human strain Caucasian) **459627-74-8**
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(amino acid sequence; gene expression profiling for identification of disease genes for use in drug screening and therapy)

IT **9013-18-7**, Acyl CoA synthase
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(gene expression profiling for identification of disease genes for use in drug screening and therapy)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:130647 HCAPLUS
DOCUMENT NUMBER: 138:167395
TITLE: Genes down-regulated in the spinal cord in response to pain and their use in screening for analgesics
INVENTOR(S): Brooksbank, Robert Alan; Dixon, Alistair Kerr; Lee, Kevin; Pinnock, Robert Denham
PATENT ASSIGNEE(S): Warner-Lambert Company, USA
SOURCE: Eur. Pat. Appl., 188 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

EP 1284298	A2	20030219	EP 2002-255229	20020726
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
GB 2377940	A1	20030129	GB 2001-18354	20010727
JP 2003156488	A2	20030530	JP 2002-219631	20020729

PRIORITY APPLN. INFO.: GB 2001-18354 A 20010727
GB 2002-2883 A 20020207

AB Genes that are down-regulated in the mammalian spinal cord in response to mechanistically distinct first and second models of neuropathic or central sensitization pain are identified. The genes may be useful as markers in screening for analgesics (no data).

IT **497282-33-4**
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; genes down-regulated in spinal cord in response to pain and their use in screening for analgesics)

IT **459612-69-2**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; genes down-regulated in the spinal cord in response to pain and their use in screening for analgesics)

IT **9013-18-7**, Acyl CoA synthetase **9014-34-0**, Stearoyl CoA desaturase
RL: BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pain regulation of expression of gene for; genes down-regulated in spinal cord in response to pain and their use in screening for analgesics)

L21 ANSWER 6 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:97550 HCAPLUS
DOCUMENT NUMBER: 138:164674
TITLE: Molecular markers for hepatocellular carcinoma and their use in diagnosis and therapy
INVENTOR(S): Debuschewitz, Sabine; Jobst, Juergen; Kaiser, Stephan
PATENT ASSIGNEE(S): Germany
SOURCE: PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003010336	A2	20030206	WO 2002-EP8305	20020725
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10136273	A1	20030213	DE 2001-10136273	20010725

PRIORITY APPLN. INFO.: DE 2001-10136273 A 20010725

AB The invention relates to mol. markers occurring for hepatocellular carcinoma. The invention more particularly comprises gene sequences or peptides coded thereby which can be regulated upwards or downwards for

hepatic cell carcinoma (HCC) in relation to healthy, normal liver cells in the expression thereof. The invention also relates to the use of said sequences in the diagnosis and/or therapy of HCC and for screening purposes in order to identify novel active ingredients for HCC. The invention also relates to an HCC specific cluster as a unique diagnostic agent for HCC.

IT **9014-34-0**, **Fatty acid** desaturase
RL: ADV (Adverse effect, including toxicity); ANT (Analyte); ARG (Analytical reagent use); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(2; mol. markers for hepatocellular carcinoma and their use in diagnosis and therapy)

IT **94219-29-1**, Synthetase, long-chain acyl coenzyme A
RL: ADV (Adverse effect, including toxicity); ANT (Analyte); ARG (Analytical reagent use); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(4, isoform 2; mol. markers for hepatocellular carcinoma and their use in diagnosis and therapy)

IT **189642-86-2**, Phosphoprotein (human gene TCOF1) **480288-49-1**
480618-19-7, Alphal-antichymotrypsin (human gene ACT)
480730-09-4 **480747-11-3** **480908-99-4**
480917-09-7, Tapasin (human gene NGS-17) **481316-30-7**,
Transketolase (human gene tk)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; mol. markers for hepatocellular carcinoma)

IT **9029-98-5**, Diacylglycerol O-acyltransferase
RL: ADV (Adverse effect, including toxicity); ANT (Analyte); ARG (Analytical reagent use); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(homolog 1; mol. markers for hepatocellular carcinoma and their use in diagnosis and therapy)

L21 ANSWER 7 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:93812 HCAPLUS
DOCUMENT NUMBER: 138:350424
TITLE: Molecular characterization of a rabbit long-chain fatty acyl CoA synthetase that is highly expressed in the vascular endothelium
AUTHOR(S): Uberti, Michelle A.; Pierce, James; Weis, Margaret T.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, University of the Sciences at Philadelphia, Philadelphia, PA, 19104, USA
SOURCE: Biochimica et Biophysica Acta (2003), 1645(2), 193-204
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The formation of CoA thioesters from long-chain **fatty acids** represents a metabolic branch point. We have isolated, cloned and sequenced a long-chain fatty acyl CoA synthetase (LCFACoAS) that is localized to the endothelium of rabbit heart and aorta. Immunofluorescence and in situ hybridization studies show intense staining of the intimal layer of the aorta and coronary vessels. The microvessels, including the capillaries, of the coronary circulation also show intense immunofluorescence. The enzyme shares only about 30% to 70% homol. with the primary amino acid sequence of the other known LCFACoAS. There is a region of 44 amino acids at the carboxy terminus, which is unique to the vascular enzyme. This domain contains the most hydrophobic region of the mol., indicating that it may function as a membrane anchoring site. These results suggest that this LCFACoAS represents a novel isoform, whose functional significance remains to be detd.

IT **9013-18-7P**, Long-chain fatty acyl CoA synthetase

518112-56-6P
RL: BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); PREP (Preparation)
(mol. characterization of a rabbit long-chain fatty acyl CoA synthetase that is highly expressed in vascular endothelium)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 8 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:391912 HCAPLUS
DOCUMENT NUMBER: 137:1836
TITLE: Measurement of DNA methylation for analysis of the toxicology of substances
INVENTOR(S): Olek, Alexander; Piepenbrock, Christian; Berlin, Kurt
PATENT ASSIGNEE(S): Epigenomics Ag, Germany
SOURCE: PCT Int. Appl., 113 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002040710	A2	20020523	WO 2001-EP12951	20011108
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10056802	A1	20020529	DE 2000-10056802	20001114
AU 2002023672	A5	20020527	AU 2002-23672	20011108

PRIORITY APPLN. INFO.: DE 2000-10056802 A 20001114
WO 2001-EP12951 W 20011108

AB The invention relates to a method for anal. of the toxicol. of a substance by measuring its effects using changes in DNA methylation as an indicator of toxicol. According to the invention, a DNA sample is taken from an organism or a cell culture which has been exposed to a specific substance which is to be examd. on account of its toxicol. effect. The DNA contained in said sample is chem. pre-treated and the base sequence of a section of the modified DNA is detd. The preferred method is to convert cytosine in CpG dinucleotides to uracil using bisulfite. Probes specific for cytosine- or uracil-contg. DNA can be used to detect changes in methylation. From there, a characteristic methylation state or a characteristic methylation model is detd. for the sample. By comparison with data from methylation states of other samples, the effect of a substance on the organism or the cell culture is detd. and/or compared to other substances in toxicol. terms. A panel of sequences that can be used to analyze the effects of poisons is described.

IT **391961-03-8 391961-09-4 391961-27-6**, Protein (human gene TOP1) **391961-67-4 391961-80-1**, HMSH6 protein (human gene MSH6) **391961-84-5 391962-38-2 391963-09-0**, Helicase II (human gene RAD54L) **391965-81-4 391973-66-3 391974-50-8**, Protein (human clone hhmg2 gene HMG-2) **391974-60-0 391975-60-3**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; measurement of DNA methylation for anal. of the toxicol. of substances)

L21 ANSWER 9 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:224827 HCAPLUS
DOCUMENT NUMBER: 138:24129
TITLE: The role of n-3 polyunsaturated **fatty acids** in brain: modulation of rat brain gene expression by dietary n-3 **fatty acids**
AUTHOR(S): Kitajka, Klara; Puskas, Laszlo G.; Zvara, Agnes; Hackler, Laszlo, Jr.; Barcelo-Coblijn, Gwendolyn; Yeo, Young K.; Farkas, Tibor
CORPORATE SOURCE: Institute of Biochemistry, Biological Research Center, Hungarian Academy of Sciences, Szeged, H-6701, Hung.
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2002), 99(5), 2619-2624
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Rats were fed either a high linolenic acid (perilla oil) or high eicosapentaenoic + docosahexaenoic acid (fish oil) diet (8%), and the **fatty acid** and mol. species compn. of ethanolamine phosphoglycerides was detd. Gene expression pattern resulting from the feeding of n-3 **fatty acids** also was studied. Perilla oil feeding, in contrast to fish oil feeding, was not reflected in total **fatty acid** compn. of ethanolamine phosphoglycerides. Levels of the alkenylacyl subclass of ethanolamine phosphoglycerides increased in response to feeding. Similarly, levels of diacyl phosphatidylethanolamine mol. species contg. docosahexaenoic acid (18:0/22:6) were higher in perilla-fed or fish oil-fed rat brains whereas those in ethanolamine plasmalogens remained unchanged. Because plasmalogen levels in the brains of rats fed a n-3 **fatty acid**-enriched diet increased, it is plausible, however, that docosahexaenoic acid taken up from the food or formed from linolenic acid was deposited in this phospholipid subclass. Using cDNA microarrays, 55 genes were found to be overexpressed and 47 were suppressed relative to controls by both dietary regimens. The altered genes included those controlling synaptic plasticity, cytoskeleton and membrane assocn., signal transduction, ion channel formation, energy metab., and regulatory proteins. This effect seems to be independent of the chain length of **fatty acids**, but the n-3 structure appears to be important. Because n-3 polyunsatd. **fatty acids** have been shown to play an important role in maintaining normal mental functions and docosahexaenoic acid-contg. ethanolamine phosphoglyceride (18:0/22:6) mol. species accumulated in response to n-3 **fatty acid** feeding, a casual relationship between the two events can be surmised.

IT **477984-59-1 477984-86-4 477984-87-5**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; role of n-3 polyunsatd. **fatty acids** in brain, modulation of rat brain gene expression by dietary n-3 **fatty acids**)

IT **57-10-3**, Hexadecanoic acid, biological studies **2791-29-9**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(n-3 polyunsatd. **fatty acids** in brain in relation to modulation of rat brain gene expression by dietary n-3 **fatty acids**)

IT **390105-90-5**, GenBank AF111168
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; role of n-3 polyunsatd. **fatty acids** in brain, modulation of rat brain gene expression by

dietary n-3 **fatty acids**)
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 10 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:72748 HCAPLUS
DOCUMENT NUMBER: 136:146104
TITLE: Human stress genes identified using DNA microarrays
INVENTOR(S): Chenchik, Alex; Lukashev, Matvey E.
PATENT ASSIGNEE(S): Clontech, USA
SOURCE: U.S. Pat. Appl. Publ., 57 pp., Cont.-in-part of U.S. Ser. No. 441,920.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002009730	A1	20020124	US 2001-782909	20010213

PRIORITY APPLN. INFO.:
US 1998-222256 B2 19981228
US 1999-440305 B2 19991117
US 1999-441920 A2 19991117

AB Human stress arrays and methods for their use are provided. The subject arrays include a plurality of polynucleotide spots, each of which is made up of a polynucleotide probe compn. of unique polynucleotides corresponding to a human stress gene. The av. length of the polynucleotide probes is between 50 to 1000 nucleotides. The d. of the spots on the array did not exceed 400/cm2 and the spots had a diam. ranging between 10 to 5000 .mu.m. Furthermore, the no. of polynucleotide probe spots on the array ranged between 50 to 2000 nucleotides. The subject arrays find use in hybridization assays, particularly in assays for the identification of differential gene expression of human stress genes. 236 Different human stress genes were identified using this approach.

IT **180191-82-6 199619-80-2 391961-03-8**
391961-09-4 391961-27-6, Protein (human gene TOP1)
391961-67-4 391961-80-1, HMSH6 protein (human gene MSH6)
391961-84-5 391962-38-2 391963-09-0, Helicase II (human gene RAD54L) **391964-34-4**, Pleiotrophin (human)
391964-46-8 391965-81-4 391966-47-5
391967-26-3 391967-38-7 391967-49-0
391970-24-4, Protein (human 4563-amino acid) **391970-54-0**, Protein (human 461-amino acid) **391972-31-9 391973-66-3**
391974-50-8, Protein (human clone hhmg2 gene HMG-2)
391974-60-0 391975-11-4, Protein (human 502-amino acid)
391975-60-3 392341-49-0
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; human stress genes identified using DNA microarrays)

IT **197828-46-9**, GenBank AF020544
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; human stress genes identified using DNA microarrays)

L21 ANSWER 11 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:903794 HCAPLUS
DOCUMENT NUMBER: 136:58784
TITLE: Encapsulation of plasmid DNA (Lipogenes) and therapeutic agents with nuclear localization

signal/fusogenic peptide conjugates into targeted liposome complexes
INVENTOR(S): Boulikas, Teni
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 107 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001093836	A2	20011213	WO 2001-US18657	20010608
WO 2001093836	A3	20021003		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1292284	A2	20030319	EP 2001-942131	20010608
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003072794	A1	20030417	US 2001-876904	20010608

PRIORITY APPLN. INFO.: US 2000-210925P P 20000609
WO 2001-US18657 W 20010608

AB A method is disclosed for encapsulating plasmids, oligonucleotides or neg.-charged drugs into liposomes having a different lipid compn. between their inner and outer membrane bilayers and able to reach primary tumors and their metastases after i.v. injection to animals and humans. The formulation method includes complex formation between DNA with cationic lipid mols. and fusogenic/NLS peptide conjugates composed of a hydrophobic chain of about 10-20 amino acids and also contg. four or more histidine residues or NLS at their one end. The encapsulated mols. display therapeutic efficacy in eradicating a variety of solid human tumors including but not limited to breast carcinoma and prostate carcinoma. Combination of the plasmids, oligonucleotides or neg.-charged drugs with other anti-neoplastic drugs (the pos.-charged cis-platin, doxorubicin) encapsulated into liposomes are of therapeutic value. Also of therapeutic value in cancer eradication are combinations of the encapsulated plasmids, oligonucleotides or neg.-charged drugs with HSV-tk plus encapsulated ganciclovir.

IT **138915-91-0**
RL: BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(encapsulation of plasmid DNA (Lipogenes) and therapeutic agents with nuclear localization signal/fusogenic peptide conjugates into targeted liposome complexes)

IT **379718-02-2 379718-31-7 379719-48-9**
379719-49-0 379720-13-5 379720-32-8
379720-77-1 379721-15-0 379721-90-1
379722-11-9 379722-19-7
RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(encapsulation of plasmid DNA (Lipogenes) and therapeutic agents with nuclear localization signal/fusogenic peptide conjugates into targeted liposome complexes)

IT **4537-77-3**, Dipalmitoyl phosphatidyl glycerol
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP

(Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(encapsulation of plasmid DNA (Lipogenes) and therapeutic agents with nuclear localization signal/fusogenic peptide conjugates into targeted liposome complexes)

L21 ANSWER 12 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:764047 HCAPLUS
DOCUMENT NUMBER: 136:274002
TITLE: Genome sequence of an industrial microorganism Streptomyces avermitilis: deducing the ability of producing secondary metabolites
AUTHOR(S): Omura, Satoshi; Ikeda, Haruo; Ishikawa, Jun; Hanamoto, Akiharu; Takahashi, Chigusa; Shinose, Mayumi; Takahashi, Yoko; Horikawa, Hiroshi; Nakazawa, Hidekazu; Osonoe, Tomomi; Kikuchi, Hisashi; Shiba, Tadayoshi; Sakaki, Yoshiyuki; Hattori, Masahira
CORPORATE SOURCE: The Kitasato Institute for Life Sciences, Kitasato University, Tokyo, 108-8642, Japan
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2001), 98(21), 12215-12220
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Streptomyces avermitilis is a soil bacterium that carries out not only a complex morphol. differentiation but also the prodn. of secondary metabolites, one of which, avermectin, is com. important in human and veterinary medicine. The major interest in this genus Streptomyces is the diversity of its prodn. of secondary metabolites as an industrial microorganism. A major factor in its prominence as a producer of the variety of secondary metabolites is its possession of several metabolic pathways for biosynthesis. This report provides a sequence anal. of S. avermitilis, covering 99% of its genome. At least 8.7 million base pairs exist in the linear chromosome; this is the largest bacterial genome sequence, and it provides insights into the intrinsic diversity of the prodn. of the secondary metabolites of Streptomyces. Twenty-five kinds of secondary metabolite gene clusters were found in the genome of S. avermitilis. Four of them are concerned with the biosyntheses of melanin pigments, in which two clusters encode tyrosinase and its cofactor, another two encode an ochronotic pigment derived from homogentiginic acid, and another polyketide-derived melanin. The gene clusters for carotenoid and siderophore biosyntheses are composed of seven and five genes, resp. There are eight kinds of gene clusters for type-I polyketide compd. biosyntheses, and two clusters are involved in the biosyntheses of type-II polyketide-derived compds. Furthermore, a polyketide synthase that resembles phloroglucinol synthase was detected. Eight clusters are involved in the biosyntheses of peptide compds. that are synthesized by nonribosomal peptide synthetases. These secondary metabolite clusters are widely located in the genome but half of them are near both ends of the genome. The total length of these clusters occupies about 6.4% of the genome.

IT **390892-18-9**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; genome sequence of Streptomyces avermitilis and its use in deducing the ability to produce secondary metabolites)

IT **94219-29-1**, Long-chain **fatty acid**-CoA ligase
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(genome sequence of Streptomyces avermitilis and its use in deducing the ability to produce secondary metabolites)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 13 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:598192 HCAPLUS
DOCUMENT NUMBER: 135:176482
TITLE: Novel microbial **fatty acid** elongase genes and methods for producing polyunsaturated **fatty acids**
INVENTOR(S): Heinz, Ernst; Zank, Thorsten; Zaehringer, Ulrich; Lerchl, Jens; Renz, Andreas
PATENT ASSIGNEE(S): Basf A.-G., Germany
SOURCE: PCT Int. Appl., 135 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001059128	A2	20010816	WO 2001-EP1346	20010208
WO 2001059128	A3	20011220		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10005973	A1	20010816	DE 2000-10005973	20000209
DE 10023893	A1	20011122	DE 2000-10023893	20000517
DE 10063387	A1	20020912	DE 2000-10063387	20001219
EP 1254238	A2	20021106	EP 2001-913791	20010208
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001008198	A	20030325	BR 2001-8198	20010208
NO 2002003757	A	20021008	NO 2002-3757	20020808

PRIORITY APPLN. INFO.:
DE 2000-10005973 A 20000209
DE 2000-10023893 A 20000517
DE 2000-10063387 A 20001219
WO 2001-EP1346 W 20010208

AB The invention relates to novel elongase genes from Physcomitrella, Thraustochytrium, Crypthecodinium, and Phytophthora. The invention also relates to a gene construct, a vector, or a transgenic organism contg. these genes. The invention relates to the use of the elongase sequences alone or in combination with addnl. elongases and/or with addnl. **fatty acid** biosynthesis genes. The invention also relates to a method for producing polyunsatd. **fatty acids** and to a method for introducing DNA into organisms which produce large quantities of oils and, in particular, oils having a high content of unsatd. **fatty acids**. The invention further relates to an oil and/or to a **fatty acid** prepn. having a high content of multiple-unsatd. **fatty acids** that contain at least two double bonds and/or to a triacylglycerin prepn. having a high content of multiple-unsatd. **fatty acids** that contain at least two double bonds. The **fatty acids** and oils may be used in food, feed, cosmetics, and pharmaceuticals. The genes, enzymes, or transgenic organisms may addnl. be used to screen for inhibitors of the elongases.

IT **9014-34-0 68009-83-6**, Oleoyl-[acyl-carrier protein] hydrolase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(gene for; novel microbial **fatty acid** elongase genes and methods for producing polyunsatd. **fatty acids**)

IT **94219-29-1**, Long-chain acyl-CoA elongase
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(novel microbial **fatty acid** elongase genes and methods for producing polyunsatd. **fatty acids**)

IT **355482-67-6**
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(nucleotide sequence; novel microbial **fatty acid** elongase genes and methods for producing polyunsatd. **fatty acids**)

L21 ANSWER 14 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:395732 HCAPLUS
DOCUMENT NUMBER: 135:179629
TITLE: Immunostimulation by the synthetic lipopeptide P3CSK4: TLR4-independent activation of the ERK1/2 signal transduction pathway in macrophages
AUTHOR(S): Muller, Markus R.; Pfannes, Silke D. C.; Ayoub, Mohamed; Hoffmann, Petra; Bessler, Wolfgang G.; Mittenbuhler, Klaus
CORPORATE SOURCE: Inst. Mol. Med. Zellforsch., Univ. Freiburg, Freiburg, D-79104, Germany
SOURCE: Immunology (2001), 103(1), 49-60
CODEN: IMMUAM; ISSN: 0019-2805
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic lipopeptides based on bacterial **lipoprotein** are efficient activators for monocytes/macrophages inducing the release of interleukin (IL)-1, IL-6, tumor necrosis factor-.alpha. (TNF-.alpha.), reactive **oxygen**/nitrogen intermediates, and the translocation of nuclear factor .kappa.B (NF.kappa.B). In this report the authors investigate the signal transduction pathways involved in leukocyte activation by the synthetic lipopeptide N-**palmitoyl**-S-[2,3-bis(**palmitoyloxy**)-(2R,S)-**propyl**]-(R)-cysteinyl-seryl-(lysyl)3-lysine (P3CSK4). The authors show that P3CSK4 activates mitogen-activated protein (MAP)-kinases ERK1/2 and MAP kinase (MAPK)-kinases MEK1/2 in bone-marrow-derived macrophages (BMDM) and in the macrophage cell line RAW 264.cntdot.7. Addnl., the authors could detect differences between the P3CSK4 and lipopolysaccharide (LPS)-induced phosphorylation of MAP kinases: Different levels in phosphorylation were found both in kinetics and dose-response using RAW 264.7 cells or BMDM from BALB/c and LPS responder mice (C57BL/10ScSn) or LPS non-responder mice (C57BL/10ScCr). The lipopeptide activated the MAPK-signaling cascade in both LPS responder and non-responder macrophages, whereas LPS induced the MAPK signaling pathway only in macrophages derived from LPS responder mice. An approx. 70% decrease of lipopeptide induced NF.kappa.B translocation and an about 50% redn. of nitric oxide (NO) release was obsd. in the presence of anti-CD14. These data correspond to the redn. of phosphorylation of ERK1/2 after stimulation with P3CSK4 in the presence of anti-CD14 antibodies. Inhibition of MEK1/2 by PD 98059 completely reduced the lipopeptide-induced phosphorylation of ERK1/2 indicating that MEK1/2 are solely responsible for the phosphorylation of the downstream-located MAP kinases ERK1/2.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(synthetic lipopeptide activation of MAP kinase signal transduction pathway in macrophages)
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 15 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:364016 HCAPLUS
DOCUMENT NUMBER: 135:1093
TITLE: The malaria genome sequencing project: Complete sequence of Plasmodium falciparum chromosome 2
AUTHOR(S): Gardner, M. J.; Tettelin, H.; Carucci, D. J.; Cummings, L. M.; Smith, H. O.; Fraser, C. M.; Venter, J. C.; Hoffman, S. L.
CORPORATE SOURCE: The Institute for Genomic Research, Rockville, MD, 20850, USA
SOURCE: Parassitologia (Roma, Italy) (1999), 41(1-3), 69-75
CODEN: PSSGAR; ISSN: 0048-2951
PUBLISHER: Lambardo Editore
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An international consortium has been formed to sequence the entire genome of the human malaria parasite Plasmodium falciparum. Chromosome 2 of clone 3D7 was sequenced using a shotgun sequencing strategy. Chromosome 2 is 947 kb in length, has a base compn. of 80.2% A+T, and contains 210 predicted genes. In comparison to the Saccharomyces cerevisiae genome, chromosome 2 has a lower gene d., a greater proportion of genes contg. introns, and nearly twice as many proteins contg. predicted non-globular domains. A group of putative surface proteins was identified, rifins, which are encoded by a gene family comprising up to 7% of the protein-encoding genes in the genome. The rifins exhibit considerable sequence diversity and may play an important role in antigenic variation. Sixteen genes encoded on chromosome 2 showed signs of a plastid or mitochondrial origin, including several genes involved in **fatty acid** biosynthesis. Completion of the chromosome 2 sequence demonstrated that the A+T-rich genome of P. falciparum can be sequenced by the shotgun approach. Within 2-3 yr, the sequence of almost all P. falciparum genes will have been detd., paving the way for genetic, biochem. and immunol. research aimed at developing new drugs and vaccines against malaria.
IT **257896-21-2 257896-25-6 257896-28-9**
257896-36-9 257896-43-8 257896-52-9
257896-71-2 257896-85-8 257896-90-5
257897-42-0 257897-43-1 257897-56-6
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; complete sequence of Plasmodium falciparum chromosome 2)
IT **9013-18-7,** Acyl-CoA synthetase
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(complete sequence of Plasmodium falciparum chromosome 2)
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 16 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:209011 HCAPLUS
DOCUMENT NUMBER: 137:196299
TITLE: Genome sequence of enterohaemorrhagic Escherichia coli O157:H7. [Erratum to document cited in CA134:232542]
AUTHOR(S): Perna, Nicole T.; Plunkett, Guy, III; Burtand, Valerie; Mau, Bob; Glasner, Jeremy D.; Rose, Debra J.; Mayhew, George F.; Evans, Peter S.; Gregor, Jason; Kirkpatrick, Heather A.; Postal, Gyorgy; Hackett,

Jeremiah; Klink, Sara; Boutin, Adam; Shao, Ying; Miller, Leslie; Grotbeck, Erik J.; Davis, N. Wayne; Lim, Alex; Dimalanta, Eileen T.; Potamousis, Konstantinos D.; Apodaca, Jennifer; Anantharaman, Thomas S.; Lin, Jleyl; Yen, Galex; Schwartz, Dvaid C.; Welch, Rodney A.; Blatner, Frederick R.

CORPORATE SOURCE: Genome Center of Wisconsin, Department of Animal Health and Biomedical Sciences, Laboratory of Genetics, Department of Chemistry, Department of Biostatistics, and Department of Medical Microbiology and Immunology, University of Wisconsin, Madison, WI, 53706, USA

SOURCE: Nature (London, United Kingdom) (2001), 410(6825), 240
CODEN: NATUAS; ISSN: 0028-0836

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The correct GenBank accession no. for the annotated sequence is AE005174.

IT **159577-04-5 325507-98-0 325509-88-4**
325521-15-1 325525-41-5 325525-44-8
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; genome sequence of enterohemorrhagic Escherichia coli O157,H7 (Erratum))

L21 ANSWER 17 OF 33 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:98372 HCAPLUS

DOCUMENT NUMBER: 134:232542

TITLE: Genome sequence of enterohemorrhagic Escherichia coli O157:H7

AUTHOR(S): Perna, Nicole T.; Plunkett, Guy, III; Burland, Valerie; Mau, Bob; Glasner, Jeremy D.; Rose, Debra J.; Mayhew, George F.; Evans, Peter S.; Gregor, Jason; Kirkpatrick, Heather A.; Posfai, Gyorgy; Hackett, Jeremiah; Klink, Sara; Boutin, Adam; Shao, Ying; Miller, Leslie; Grotbeck, Erik J.; Davis, N. Wayne; Lim, Alex; Dimalanta, Eileen T.; Potamousis, Konstantinos D.; Apodaca, Jennifer; Anantharaman, Thomas S.; Lin, Jieyi; Yen, Glaex; Schwartz, David C.; Welch, Rodney A.; Blattner, Frederick R.

CORPORATE SOURCE: Genome Center of Wisconsin, Department of Animal Health and Biomedical Sciences, Laboratory of Genetics, Department of Chemistry, Department of Biostatistics, and Department of Medical Microbiology and Immunology, University of Wisconsin, Madison, WI, 53706, USA

SOURCE: Nature (London) (2001), 409(6819), 529-533
CODEN: NATUAS; ISSN: 0028-0836

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The bacterium Escherichia coli O157:H7 is a worldwide threat to public health and has been implicated in many outbreaks of hemorrhagic colitis, some of which included fatalities caused by hemolytic uremic syndrome. Close to 75,000 cases of O157:H7 infection are now estd. to occur annually in the United States. The severity of disease, the lack of effective treatment and the potential for large-scale outbreaks from contaminated food supplies have propelled intensive research on the pathogenesis and detection of E. coli O157:H7. The genome of E. coli O157:H7 was sequenced to identify candidate genes responsible for pathogenesis, to develop better methods of strain detection and to advance our understanding of the evolution of E. coli, through comparison with the genome of the non-pathogenic lab. strain E. coli K-12. Lateral gene transfer found to

be far more extensive than previously anticipated. In fact, 1387 new genes encoded in strain-specific clusters of diverse sizes were found in O157:H7. These include candidate virulence factors, alternative metabolic capacities, several prophages, and other new functions - all of which could be targets for surveillance.

IT **159577-04-5 325507-98-0 325509-88-4**
325521-15-1 325525-41-5 325525-44-8
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; genome sequence of enterohemorrhagic Escherichia coli O157,H7)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 18 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:831437 HCAPLUS
DOCUMENT NUMBER: 134:338070
TITLE: The structure and gene repertoire of an ancient red algal plastid genome
AUTHOR(S): Glockner, Gernot; Rosenthal, Andre; Valentin, Klaus
CORPORATE SOURCE: IMB Jena, Dept. of Genome Analysis, Jena, 07745, Germany
SOURCE: Journal of Molecular Evolution (2000), 51(4), 382-390
CODEN: JMEVAU; ISSN: 0022-2844
PUBLISHER: Springer-Verlag New York Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Photosynthetic eukaryotes can, according to features of their chloroplasts, be divided into two major groups: the red and the green lineage of plastid evolution. To extend the knowledge about the evolution of the red lineage we have sequenced and analyzed the chloroplast genome (cp-genome) of Cyanidium caldarium RK1, a unicellular red alga (AF022186). The anal. revealed that this genome shows several unusual structural features, such as a hypothetical hairpin structure in a gene-free region and absence of large repeat units. We provide evidence that this structural organization of the cp-genome of C. caldarium may be that of the most ancient cp-genome so far described. We also compared the cp-genome of C. caldarium to the other known cp-genomes of the red lineage. The cp-genome of C. caldarium cannot be readily aligned with that of Porphyra purpurea, a multicellular red alga, or Guillardia theta due to a displacement of a region of the cp-genome. The phylogenetic tree reveals that the secondary endosymbiosis, through which G. theta evolved, took place after the sepn. of the ancestors of C. caldarium and P. purpurea. We found several genes unique to the cp-genome of C. caldarium. Five of them seem to be involved in the building of bacterial cell envelopes and may be responsible for the thermotolerance of the chloroplast of this alga. Two addnl. genes may play a role in stabilizing the photosynthetic machinery against salt stress and detoxification of the chloroplast. Thus, these genes may be unique to the cp-genome of C. caldarium and may be required for the endurance of the extreme living conditions of this alga.

IT **337381-22-3 337381-57-4 337511-73-6**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; structure and gene repertoire of an ancient red algal plastid genome)

IT **9014-34-0**, **Fatty-acid** desaturase
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(structure and gene repertoire of an ancient red algal plastid genome)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 19 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:679263 HCAPLUS
DOCUMENT NUMBER: 134:188814
TITLE: Re-annotating the Mycoplasma pneumoniae genome sequence: adding value, function and reading frames
AUTHOR(S): Dandekar, Thomas; Huynen, Martijn; Regula, Jorg Thomas; Ueberle, Barbara; Zimmermann, Carl Ulrich; Andrade, Miguel A.; Doerks, Tobias; Sanchez-Pulido, Luis; Snel, Berend; Suyama, Mikita; Yuan, Yan P.; Herrmann, Richard; Bork, Peer
CORPORATE SOURCE: EMBL, Heidelberg, D-69012, Germany.
SOURCE: Nucleic Acids Research (2000), 28(17), 3278-3288
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Four years after the original sequence submission, we have re-annotated the genome of Mycoplasma pneumoniae to incorporate novel data. The total no. of ORFss has been increased from 677 to 688 (10 new proteins were predicted in intergenic regions, two further were newly identified by mass spectrometry and one protein ORF was dismissed) and the no. of RNAs from 39 to 42 genes. For 19 of the now 35 tRNAs and for six other functional RNAs the exact genome positions were re-annotated and two new tRNALeu and a small 200 nt RNA were identified. Sixteen protein reading frames were extended and eight shortened. For each ORF a consistent annotation vocabulary has been introduced. Annotation reasoning, annotation categories and comparisons to other published data on M. pneumoniae functional assignments are given. Exptl. evidence includes 2-dimensional gel electrophoresis in combination with mass spectrometry as well as gene expression data from this study. Compared to the original annotation, we increased the no. of proteins with predicted functional features from 349 to 458. The increase includes 36 new predictions and 73 protein assignments confirmed by the published literature. Furthermore, there are 23 redns. and 30 addns. with respect to the previous annotation. MRNA expression data support transcription of 184 of the functionally unassigned reading frames.
IT **174958-34-0**, Protein MPN687 (Mycoplasma pneumoniae strain M129 gene K05-orf250) **184492-18-0**, Acyltransferase MPN114 (Mycoplasma pneumoniae strain M129 gene cpt2) **184492-22-6**, Protein MPN110 (Mycoplasma pneumoniae strain M129 gene C09-orf718) **184658-02-4**, Ribosomal protein S16 (MPN660) (Mycoplasma pneumoniae strain M129 gene rpsP) **184693-04-7**, Protein MPN542 (Mycoplasma pneumoniae strain M129 gene G12-orf218) **184693-29-6**, STARP antigen-like membrane protein MPN523 (Mycoplasma pneumoniae strain M129 gene G12-orf305) **184693-47-8**, Membrane export protein MPN509 (Mycoplasma pneumoniae strain M129 gene P02-orf427) **184693-75-2**, Membrane nuclease MPN491 (Mycoplasma pneumoniae strain M129 gene P02-orf474) **184721-18-4**, Ribosomal protein L3 (MPN165) (Mycoplasma pneumoniae strain M129 gene rplC) **184721-82-2**, Nuclease, exoribo- (Mycoplasma pneumoniae strain M129 gene vacB) **184721-92-4**, DNA topoisomerase I MPN261 (Mycoplasma pneumoniae strain M129 gene topA)
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(re-annotating Mycoplasma pneumoniae genome sequence: adding value, function and reading frames)
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 20 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:246921 HCAPLUS
DOCUMENT NUMBER: 132:275067
TITLE: The genome sequence of Drosophila melanogaster
AUTHOR(S): Adams, Mark D.; Celniker, Susan E.; Holt, Robert A.;

Evans, Cheryl A.; Gocayne, Jeannine D.; Amanatides, Peter G.; Scherer, Steven E.; Li, Peter W.; Hoskins, Roger A.; Galle, Richard F.; George, Reed A.; Lewis, Suzanna E.; Richards, Stephen; Ashburner, Michael; Henderson, Scott N.; Sutton, Granger G.; Wortman, Jennifer R.; Yandell, Mark D.; Zhang, Qing; Chen, Lin X.; Brandon, Rhonda C.; Rogers, Yu-Hui C.; Blazej, Robert G.; Champe, Mark; Pfeiffer, Barret D.; Wan, Kenneth H.; Doyle, Clare; Baxter, Evan G.; Helt, Gregg; Nelson, Catherine R.; Miklos, George L. Gabor; Abril, Josep F.; Agbayani, Anna; An, Hui-Jin; Andrews-Pfannkoch, Cynthia; Baldwin, Danita; Ballew, Richard M.; Basu, Anand; Baxendale, James; Bayraktaroglu, Leyla; Beasley, Ellen M.; Beeson, Karen Y.; Benos, P. V.; Berman, Benjamin P.; Bhandari, Deepali; Bolshakov, Slava; Borkova, Dana; Botchan, Michael R.; Bouck, John; Brokstein, Peter; Brottier, Phillipe; Burtis, Kenneth C.; Busam, Dana A.; Butler, Heather; Cadieu, Edouard; Center, Angela; Chandra, Ishwar; Cherry, J. Michael; Cawley, Simon; Dahlke, Carl; Davenport, Lionel B.; Davies, Peter; De Pablos, Beatriz; Delcher, Arthur; Deng, Zuoming; Mays, Anne Deslattes; Dew, Ian; Dietz, Suzanne M.; Dodson, Kristina; Doup, Lisa E.; Downes, Michael; Dugan-Rocha, Shannon; Dunkov, Boris C.; Dunn, Patrick; Durbin, Kenneth J.; Evangelista, Carlos C.; Ferraz, Concepcion; Ferriera, Steven; Fleischmann, Wolfgang; Foster, Carl; Gabrielian, Andrei E.; Garg, Neha S.; Gelbart, William M.; Glasser, Ken; Glodek, Anna; Gong, Fangcheng; Gorrell, J. Harley; Gu, Zhiping; Guan, Ping; Harris, Michael; Harris, Nomi L.; Harvey, Damon; Heiman, Thomas J.; Hernandez, Judith R.; Houck, Jarrett; Hostin, Damon; Houston, Kathryn A.; Howland, Timothy J.; Wei, Ming-Hui; Ibegwam, Chinyere; Jalali, Mena; Kalush, Francis; Karpen, Gary H.; Ke, Zhaoxi; Kennison, James A.; Ketchum, Karen A.; Kimmel, Bruce E.; Kodira, Chinnappa D.; Kraft, Cheryl; Kravitz, Saul; Kulp, David; Lai, Zhongwu; Lasko, Paul; Lei, Yiding; Levitsky, Alexander A.; Li, Jiayin; Li, Zhenya; Liang, Yong; Lin, Xiaoying; Liu, Xiangjun; Mattei, Bettina; McIntosh, Tina C.; McLeod, Michael P.; McPherson, Duncan; Merkulov, Gennady; Milshina, Natalia V.; Mobarry, Clark; Morris, Joe; Moshrefi, Ali; Mount, Stephen M.; Moy, Mee; Murphy, Brian; Murphy, Lee; Muzny, Donna M.; Nelson, David L.; Nelson, David R.; Nelson, Keith A.; Nixon, Katherine; Nusskern, Deborah R.; Pacleb, Joanne M.; Palazzolo, Michael; Pittman, Gjange S.; Pan, Sue; Pollard, John; Puri, Vinita; Reese, Martin G.; Reinert, Knut; Remington, Karin; Saunders, Robert D. C.; Scheeler, Frederick; Shen, Hua; Shue, Bixiang Christopher; Siden-Kiamos, Inga; Simpson, Michael; Skupski, Marian P.; Smith, Tom; Spier, Eugene; Spradling, Allan C.; Stapleton, Mark; Strong, Renee; Sun, Eric; Svirskas, Robert; Tector, Cyndee; Turner, Russell; Venter, Eli; Wang, Aihui H.; Wang, Xin; Wang, Zhen-Yuan; Wassarman, David A.; Weinstock, George M.; Weissenbach, Jean; Williams, Sherita M.; Woodage, Trevor; Worley, Kim C.; Wu, David; Yang, Song; Yao, Q. Alison; Ye, Jane; Yeh, Ru-Fang; Zaveri, Jayshree S.; Zhan, Ming; Zhang, Guangren; Zhao, Qi; Zheng, Liansheng; Zheng, Xiangqun H.; Zhong, Fei N.; Zhong, Wenyan; Zhou, Xiaojun; Zhu, Shiaoping; Zhu, Xiaohong; Smith, Hamilton O.; Gibbs,

Richard A.; Myers, Eugene W.; Rubin, Gerald M.; Venter, J. Craig
CORPORATE SOURCE: Celera Genomics, Rockville, MD, 20850, USA
SOURCE: Science (Washington, D. C.) (2000), 287(5461), 2185-2195
CODEN: SCIEAS; ISSN: 0036-8075
PUBLISHER: American Association for the Advancement of Science
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fly Drosophila melanogaster is one of the most intensively studied organisms in biol. and serves as a model system for the investigation of many developmental and cellular processes common to higher eukaryotes, including humans. The nucleotide sequence was detd. of nearly all of the .apprx.120-megabase euchromatic portion of the Drosophila genome using a whole-genome shotgun sequencing strategy supported by extensive clone-based sequence and a high-quality bacterial artificial chromosome phys. map. Efforts are under way to close the remaining gaps; however, the sequence is of sufficient accuracy and contiguity to be declared substantially complete and to support an initial anal. of genome structure and preliminary gene annotation and interpretation. The genome encodes .apprx.13,600 genes, somewhat fewer than the smaller Caenorhabditis elegans genome, but with comparable functional diversity. Access to supporting information on each gene is available through FlyBase at http://flybase.bio.indiana.edu and through Celera at www.celera.com; the sequences are deposited in GenBank with Accession Nos. AE002566-AE003403. [This abstr. record is one of 4 records for this document necessitated by the large no. of index entries required to fully index the document and publication system restraints.].

IT **155578-71-5 156290-11-8 247033-18-7 263517-02-8 263517-04-0 263517-73-3 263517-89-1 263518-52-1 263518-62-3 263519-00-2 263520-00-9 263520-90-7 263523-05-3 263523-07-5 263523-08-6 263524-56-7 263525-61-7 263526-17-6 263526-90-5 263527-38-4 263527-39-5 263527-62-4 263528-53-6 263528-87-6 263529-25-5 263530-09-2 263530-46-7 263531-86-8 263531-97-1 263532-85-0 263532-89-4 263533-83-1 263535-00-8 263535-13-3 263536-06-7 263536-09-0 263536-77-2 263537-07-1 263537-57-1 263537-65-1 263538-19-8 263539-19-1 263539-63-5 263540-05-2 263540-06-3 263540-07-4 263540-54-1**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; genome sequence of Drosophila melanogaster)

L21 ANSWER 21 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:181732 HCAPLUS
DOCUMENT NUMBER: 132:203916
TITLE: Complete genome sequence of Neisseria meningitidis serogroup B strain MC58
AUTHOR(S): Tettelin, Herve; Saunders, Nigel J.; Heidelberg, John; Jeffries, Alex C.; Nelson, Karen E.; Eisen, Jonathan A.; Ketchum, Karen A.; Hood, Derek W.; Peden, John F.; Dodson, Robert J.; Nelson, William C.; Gwinn, Michelle L.; DeBoy, Robert; Peterson, Jeremy D.; Hickey, Erin K.; Haft, Daniel H.; Salzberg, Steven L.; White, Owen; Fleischmann, Robert D.; Dougherty, Brian A.; Mason, Tanya; Ciecko, Anne; Parksey, Debbie S.; Blair, Eric; Cittone, Henry; Clark, Emily B.; Cotton, Matthew D.; Utterback, Terry R.; Khouri, Hoda; Qin, Haiying;

Vamathevan, Jessica; Gill, John; Scarlato, Vincenzo; Masignani, Vega; Pizza, Mariagrazia; Grandi, Guido; Sun, Li; Smith, Hamilton O.; Fraser, Claire M.; Moxon, E. Richard; Rappuoli, Rino; Venter, J. Craig
CORPORATE SOURCE: The Institute for Genomic Research (TIGR), Rockville, MD, 20850, USA
SOURCE: Science (Washington, D. C.) (2000), 287(5459), 1809-1815
CODEN: SCIEAS; ISSN: 0036-8075
PUBLISHER: American Association for the Advancement of Science
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The 2,272,351-bp genome of Neisseria meningitidis strain MC58 (serogroup B), a causative agent of meningitis and septicemia, contains 2158 predicted coding regions, 1158 (53.7%) of which were assigned a biol. role. Three major islands of horizontal DNA transfer were identified; two of these contain genes encoding proteins involved in pathogenicity, and the third island contains coding sequences only for hypothetical proteins. Insights into the commensal and virulence behavior of N. meningitidis can be gleaned from the genome, in which sequences for structural proteins of the pilus are clustered and several coding regions unique to serogroup B capsular polysaccharide synthesis can be identified. Finally, N. meningitidis contains more genes that undergo phase variation than any pathogen studied to date, a mechanism that controls their expression and contributes to the evasion of the host immune system.
IT **189959-82-8 260030-22-6 260033-25-8 260035-26-5 260038-45-7**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; complete genome sequence of Neisseria meningitidis serogroup B strain MC58)
REFERENCE COUNT: 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 22 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:496081 HCAPLUS
DOCUMENT NUMBER: 131:296885
TITLE: The Cloning and Expression of Pf acs1, a Plasmodium falciparum Fatty Acyl Coenzyme A Synthetase-1 Targeted to the Host Erythrocyte Cytoplasm
AUTHOR(S): Matesanz, Fuencisla; Duran-Chica, Isabel; Alcina, Antonio
CORPORATE SOURCE: Instituto de Parasitologia y Biomedicina "Lopez Neyra", CSIC, Granada, Spain
SOURCE: Journal of Molecular Biology (1999), 291(1), 59-70
CODEN: JMOBAK; ISSN: 0022-2836
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Plasmodium is unable to carry out de novo **fatty acid** synthesis and has to obtain these compds. from their host for subsequent activation by thioesterification with CoA. This activity is catalyzed by a fatty acyl-CoA synthetase enzyme (EC 6.2.1.3). Here, we describe a novel gene from P. falciparum whose recombinant purified product from baculovirus-transfected insect cell line had the enzymic activity of a long-chain fatty acyl-CoA synthetase. It was named pf acs1, since it belongs to a multi-member gene family as revealed by the sequence of several clones and a multi-band pattern in Southern blots. The sequence specifies a product of 820 amino acid residues. It was transcribed and expressed in infected erythrocytes having an apparent mol. mass of 100 kDa. Immuno-labeling of infected erythrocytes with a specific antibody against the carboxy-terminal part of the PfACS1 localized the product early after the erythrocyte invasion in vesicle-like structures budding

off the parasitoforous membrane toward the red cell cytoplasm. Its unique carboxy- terminal structure of 70 extra amino acid residues, longer than any other reported acyl-CoA synthetase, is probably related to its localization in the cytoplasm of the host erythrocyte. The phylogenetic relationship among other AMP-forming enzymes, placed PfACS1 closer to Saccharomyces cerevisiae, sharing significant amino acid identities, esp. in the conserved signature motif that modulates **fatty acid** substrate specificity and ATP/AMP-binding domains. Taking into account the importance of this enzymic activity for the parasite, its extra-cellular location inside the infected erythrocyte, and the divergence with respect to the homologous human enzymes, it may be an important protein as a potential target candidate for chemotherapeutic antimalaria drugs. (c) 1999 Academic Press.

IT **246853-94-1**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(amino acid sequence; mol. characterization, cloning and expression of Pf acs1, Plasmodium falciparum fatty acyl CoA synthetase-1 targeted to host erythrocyte cytoplasm)

IT **9013-18-7**, Acyl CoA synthetase
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(mol. characterization, cloning and expression of Pf acs1, Plasmodium falciparum fatty acyl CoA synthetase-1 targeted to host erythrocyte cytoplasm)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 23 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:359660 HCAPLUS
DOCUMENT NUMBER: 131:28638
TITLE: Chlamydia pneumoniae genomic sequence and polypeptides and their fragments and uses for the diagnosis, prevention and treatment of infection
INVENTOR(S): Griffais, Remy
PATENT ASSIGNEE(S): Genset, Fr.
SOURCE: PCT Int. Appl., 1912 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9927105	A2	19990603	WO 1998-IB1890	19981120
WO 9927105	A3	19991111		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2307846	AA	19990603	CA 1998-2307846	19981120
AU 9911702	A1	19990615	AU 1999-11702	19981120
EP 1032674	A2	20000906	EP 1998-954662	19981120
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9814878	A	20001003	BR 1998-14878	19981120

JP 2002536958	T2	20021105	JP 2000-556579	19981120
US 6559294	B1	20030506	US 1998-198452	19981123
PRIORITY APPLN. INFO.:			FR 1997-14673	A 19971121
			US 1998-107078P	P 19981104
			WO 1998-IB1890	W 19981120

AB The subject of the invention is the genomic sequence and the nucleotide sequences encoding polypeptides of Chlamydia pneumoniae, such as cellular envelope polypeptides, which are secreted or specific, or which are involved in metab., in the replication process or in virulence, polypeptides encoded by such sequences, as well as vectors including the said sequences and cells or animals transformed with these vectors. The complete genome sequence of C. pneumoniae strain CM1 (ATCC 1260-VR) is provided, as well as 1296 open reading frames and the deduced amino acid sequences of their protein products. The invention also relates to transcriptional gene products of the Chlamydia pneumoniae genome, such as, for example, antisense and ribozyme mols., which can be used to control growth of the microorganism. The invention also relates to methods of detecting these nucleic acids or polypeptides and kits for diagnosing Chlamydia pneumoniae infection. The invention also relates to a method of selecting compds. capable of modulating bacterial infection and a method for the biosynthesis or biodegrdn. of mols. of interest using the said nucleotide sequences or the said polypeptides. The invention finally comprises, pharmaceutical, in particular vaccine, compns. for the prevention and/or treatment of bacterial, in particular Chlamydia pneumoniae, infections.

IT **223705-54-2 225924-38-9 225926-49-8 225927-29-7 226071-91-6 226075-61-2 226080-29-1 226222-04-4 226222-50-0 226223-19-4**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(amino acid sequence; Chlamydia pneumoniae genomic sequence and polypeptides and their fragments and uses for the diagnosis, prevention and treatment of infection)

L21 ANSWER 24 OF 33 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1999:286745 HCAPLUS
DOCUMENT NUMBER:	131:45087
TITLE:	The synthesis and biological properties of artificial antigens on the basis of the 280-289 fragment of .beta.2-glycoprotein I
AUTHOR(S):	Pal'keeva, M. E.; Sidorova, M. V.; Molokoedov, A. S.; Kuznetsova, T. V.; Tishchenko, V. A.; Kobylyanskii, A. G.; Bespalova, Zh. D.; Nasonov, E. L.; Evstigneeva, R. P.
CORPORATE SOURCE:	Russian Cardiological Scientific Center, Russian Ministry of Health, Moscow, 121552, Russia
SOURCE:	Bioorganicheskaya Khimiya (1998), 24(7), 502-508 CODEN: BIKHD7; ISSN: 0132-3423
PUBLISHER:	MAIK Nauka
DOCUMENT TYPE:	Journal
LANGUAGE:	Russian

AB A series of artificial antigens were synthesized on the basis of the FC(Acm)KNKEKKC(Acm)S peptide from the .beta.2-glycoprotein I sequence: lipophilic analogs, the peptide-BSA conjugate, and multiple antigen peptide (MAP) contg. eight copies of the peptide on an oligolysyl core. The solid phase method for acylation of the peptide with **fatty acids** and the HPLC anal. of the acylpeptides were described. Antigenic properties of the resulting compds. were evaluated by CL-ELISA.

IT **227295-11-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological

study); PREP (Preparation)
(synthesis and biol. properties of artificial antigens based on .beta.2-glycoprotein I fragment)

IT **14464-31-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and biol. properties of artificial antigens based on .beta.2-glycoprotein I fragment)

L21 ANSWER 25 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:649612 HCAPLUS
DOCUMENT NUMBER: 130:24072
TITLE: Structure and specific activity of macrophage-stimulating lipopeptides from Mycoplasma hyorhinis
AUTHOR(S): Muhlradt, Peter F.; Kiess, Michael; Meyer, Holger; Sussmuth, Roderich; Jung, Gunther
CORPORATE SOURCE: Immunobiology and Structure Research Groups, Gesellschaft fur Biotechnologische Forschung mbH, Braunschweig, D-38124, Germany
SOURCE: Infection and Immunity (1998), 66(10), 4804-4810
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mycoplasmas are potent macrophage stimulators. We describe the isolation of macrophage-stimulatory lipopeptides S-[2,3-bisacyl(C16:0/C18:0) **oxypropyl**]cysteinyl-GQTDNNSSQSQQPGSGTTNT and S-[2,3-bisacyl (C16:0/C18:0)**oxypropyl**]cysteinyl-GQTN derived from the Mycoplasma hyorhinis variable **lipoproteins** VlpA and VlpC, resp. These lipopeptides were characterized by amino acid sequence and compn. anal. and by mass spectrometry. The lipopeptides S-[2,3-bis(**palmitoyloxy**)**propyl**]cysteinyl-GQTNT and S-[2,3-bis(**palmitoyloxy**)**propyl**]cysteinyl-SKKKK and the N-**palmitoylated** deriv. of the latter were synthesized, and their macrophage-stimulatory activities were compared in a nitric oxide release assay with peritoneal macrophages from C3H/HeJ mice. The lipopeptides with the free amino terminus showed half-maximal activity at 3 pM regardless of their amino acid sequence; i.e., they were as active as the previously isolated M. fermentans-derived lipopeptide MALP-2. The macrophage-stimulatory activity of the addnl. N-**palmitoylated** lipopeptide or of the murein **lipoprotein** from Escherichia coli, however, was lower by orders of magnitude. It is concluded that the lack of N-acyl groups in mycoplasmal **lipoproteins** explains their exceptionally high in vitro macrophage-stimulatory capacity. Certain features that lipopolysaccharide endotoxin and mycoplasmal lipopeptides have in common are discussed. **Lipoproteins** and lipopeptides are likely to be the main causative agents of inflammatory reactions to mycoplasmas. This may be relevant in the context of mycoplasmas as arthritogenic pathogens and their assocn. with AIDS.

IT **216300-10-6DP**, acyl derivs.
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(structure and specific activity of macrophage-stimulating lipopeptides from Mycoplasma hyorhinis)

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 26 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:807851 HCAPLUS
DOCUMENT NUMBER: 128:114016
TITLE: Adjuvant lipopeptide interaction with model membranes

AUTHOR(S): Gonzalez-Christen, Judith; Vergne, Isabelle; Sussmuth, Roderich; Sidobre, Stephane; Prats, Michel; Tocanne, Jean Francois; Laneelle, Gilbert
CORPORATE SOURCE: 118 route de Narbonne, Institut de Pharmacologie et de Biologie Structurale du CNRS and Universite Paul Sabatier, F-31062 Toulouse, Cedex, 118, Fr.
SOURCE: Biochimica et Biophysica Acta (1998), 1368(1), 97-107
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The cationic lipohexapeptide Pam3Cys-Ser-(Lys)4 is a synthetic model for the triacylated N-terminal part of bacterial **lipoproteins**, and it is used as an adjuvant and macrophage activator. The amphiphilic lipopeptide was injected below a phosphatidylserine monolayer at the air-water interface. It interacted with the interface, as seen by a decrease in the surface potential (.DELTA.V), and it was inserted in the monolayer, until surface charge neutralization was reached, as seen by the parallel increases of .DELTA.V and of the surface pressure. No insertion occurred above 29 mN/m. The interaction kinetics was sensitive to ionic strength and to the nature of acidic phospholipids and of their acyl chains, but the final equil. was independent of these factors. Addn. of the lipopeptide to large unilamellar vesicles (LUVs) induced their aggregation, and an exchange of lipids between fluorophor-labeled and non-labeled LUVs. However, no fusion was obsd., just as reported for polylysine. The lipopeptide strongly inhibited calcium-induced fusion of PS LUVs, in contrast to the published effect of polylysine. This was probably due to inhibition of calcium fixation on liposomes, since it was obsd. that the lipopeptide efficiently displaced 45Ca2+ from a PS monolayer. In addn., a phospholipid segregation was obsd. in SUVs for a few ten micromolar of the lipopeptide.

IT **112208-00-1**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(adjuvant lipopeptide interaction with model membranes)

IT **3036-82-6 81490-05-3**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(adjuvant lipopeptide interaction with model membranes contg.)

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 27 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:585491 HCAPLUS
DOCUMENT NUMBER: 128:44390
TITLE: Complete genome sequence of Escherichia coli K-12
AUTHOR(S): Blattner, Frederick R.; Plunkett, Guy, III; Bloch, Craig A.; Perna, Nicole T.; Burland, Valerie; Riley, Monica; Collado-Vides, Julio; Glasner, Jeremy D.; Rode, Christopher K.; Mayhew, George F.; Gregor, Jason; Davis, Nelson Wayne; Kirkpatrick, Heather A.; Goeden, Michael A.; Rose, Debra J.; Mau, Bob; Shao, Ying
CORPORATE SOURCE: Lab. Genetics, Univ. Wisconsin-Madison, Madison, WI, 53706, USA
SOURCE: Science (Washington, D. C.) (1997), 277(5331), 1453-1462
CODEN: SCIEAS; ISSN: 0036-8075
PUBLISHER: American Association for the Advancement of Science
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 4,639,221-base pair sequence of Escherichia coli K-12 is presented. Of 4288 protein-coding genes annotated, 38 percent have no attributed

function. Comparison with five other sequenced microbes reveals ubiquitous as well as narrowly distributed gene families; many families of similar genes within E. coli are also evident. The largest family of paralogous proteins contains 80 ABC transporters. The genome as a whole is strikingly organized with respect to the local direction of replication; guanines, oligonucleotides possibly related to replication and recombination, and most genes are so oriented. The genome also contains insertion sequence (IS) elements, phage remnants, and many other patches of unusual compn. indicating genome plasticity through horizontal transfer.

IT **159577-04-5 165886-82-8 197101-85-2**
198910-68-8 198914-39-5 198914-41-9
RL: PRP (Properties)
(amino acid sequence; complete genome sequence of Escherichia coli K-12)

L21 ANSWER 28 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:522873 HCAPLUS
DOCUMENT NUMBER: 127:172134
TITLE: The complete genome sequence of the gastric pathogen Helicobacter pylori
AUTHOR(S): Tomb, Jean-F.; White, Owen; Kerlavage, Anthony R.; Clayton, Rebecca A.; Sutton, Granger G.; Fleischmann, Robert D.; Ketchum, Karen A.; Klenk, Hans Peter; Gill, Steven; Dougherty, Brian A.; Nelson, Karen; Quackenbush, John; Zhou, Lixin; Kirkness, Ewen F.; Peterson, Scott; Loftus, Brendan; Richardson, Delwood; Dodson, Robert; Khalak, Hanif G.; Glodek, Anna; McKenney, Keith; Fitzegerald, Lisa M.; Lee, Norman; Adams, Mark D.; Hickey, Erin K.; Berg, Douglas E.; Cocayne, Jeanine D.; Utterback, Teresa R.; Peterson, Jeremy D.; Kelley, Jenny M.; Cotton, Matthew D.; Weidman, Janice M.; Fujii, Claire; Bowman, Cheryl; Watthey, Larry; Wallin, Erik; Hayes, William S.; Borodovsky, Mark; Karp, Peter D.; Smith, Hamilton O.; Fraser, Claire M.; et al.
CORPORATE SOURCE: Inst. for Genomic Res., Rockville, MD, 20850, USA
SOURCE: Nature (London) (1997), 388(6642), 539-547
CODEN: NATUAS; ISSN: 0028-0836
PUBLISHER: Macmillan Magazines
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Helicobacter pylori, strain 26695, has a circular genome of 1,667,867 base pairs and 1590 predicted coding sequences. Sequence anal. indicates that H. pylori has well-developed systems for motility, for scavenging iron, and for DNA restriction and modification. Many putative adhesins, **lipoproteins** and other outer membrane proteins were identified, underscoring the potential complexity of host-pathogen interaction. Based on the large no. of sequence-related genes encoding outer membrane proteins and the presence of homopolymeric tracts and dinucleotide repeats in coding sequences, H. pylori, like several other mucosal pathogens, probably uses recombination and slipped-strand mispairing within repeats as mechanisms for antigenic variation and adaptive evolution. Consistent with its restricted niche, H. pylori has a few regulatory networks, and a limited metabolic repertoire and biosynthetic capacity. Its survival in acid conditions depends, in part, on its ability to establish a pos. inside-membrane potential in low pH.

IT **193831-74-2 193832-14-3 193833-92-0**
193835-85-7 193836-62-3 193836-96-3
193839-28-0 193839-35-9 193840-66-3
193840-73-2 193842-37-4 193842-48-7
193843-75-3 193843-89-9
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL

(Biological study)
(amino acid sequence; complete genome sequence of Helicobacter pylori)

L21 ANSWER 29 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:729783 HCAPLUS
DOCUMENT NUMBER: 126:85324
TITLE: Complete sequence analysis of the genome of the bacterium Mycoplasma pneumoniae
AUTHOR(S): Himmelreich, Ralf; Hilbert, Helmut; Plagens, Helga; Pirkl, Elsbeth; Li, Bi-Chen; Herrmann, Richard
CORPORATE SOURCE: Zenatrum Mol. Biologie Heidelberg, Univ. Heidelberg, Heidelberg, 69120, Germany
SOURCE: Nucleic Acids Research (1996), 24(22), 4420-4449
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The entire genome of the bacterium Mycoplasma pneumoniae M129 has been sequenced. It has a size of 816 394 base pairs with an av. G+C content of 40.0 mol%. We predict 677 open reading frames (ORFs) and 39 genes coding for various RNA species. Of the predicted ORFs, 75.9% showed significant similarity to genes/proteins of other organisms while only 9.9% did not reveal any significant similarity to gene sequences in databases. This permitted us tentatively to assign a functional classification to a large no. of ORFs and to deduce the biochem. and physiol. properties of this bacterium. The redn. of the genome size of M. pneumoniae during its reductive evolution from ancestral bacteria can be explained by the loss of complete anabolic (e.g. no amino acid synthesis) and metabolic pathways. Therefore, M. pneumoniae depends in nature on an obligate parasitic lifestyle which requires the provision of exogenous essential metabolites. All the major classes of cellular processes and metabolic pathways are briefly described. For a no. of activities/functions present in M. pneumoniae according to exptl. evidence, the corresponding genes could not be identified by similarity search. For instance we failed to identify genes/proteins involved in motility, chemotaxis and management of oxidative stress.
IT **9068-41-1**, Carnitine palmitoyltransferase
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(II; complete sequence anal. of genome of bacterium Mycoplasma pneumoniae)
IT **174958-34-0 184492-18-0 184492-22-6 184658-02-4 184693-04-7 184693-29-6 184693-47-8 184693-75-2 184721-18-4 184721-82-2 184721-92-4**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; complete sequence anal. of genome of bacterium Mycoplasma pneumoniae)

L21 ANSWER 30 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:531119 HCAPLUS
DOCUMENT NUMBER: 119:131119
TITLE: Interaction of immunologically-active lipopeptides with membranes
AUTHOR(S): Metzger, J. W.; Sawyer, W. H.; Wille, B.; Biesert, L.; Bessler, W. G.; Jung, G.
CORPORATE SOURCE: Institut fuer Organische Chemie, Universitaet Tuebingen, Tubingen, Germany
SOURCE: Biochimica et Biophysica Acta (1993), 1149(1), 29-39
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic tripalmitoyl-S-glycerylcysteinyl (Pam3Cys) peptides are derived from the N-terminal part of bacterial **lipoprotein** and constitute polyclonal B-lymphocyte and macrophage activators. In order to elucidate the primary events of leukocyte activation, the authors investigated the biophys. interaction of lipopeptides contg. spin labels or fluorescent markers with phosphatidylcholine vesicles or immune cells. Utilizing fluorescence microscopy and FACS anal., the authors found, that the surface of cells, after incubation with a fluorescein-labeled lipopeptide, was highly fluorescent. In addn., capping and patching was obsd. Furthermore, fluorescence quenching expts. and ESR studies using vesicles incubated with lipopeptides suggested, that the peptide moiety and other more polar mols. linked to the lipo-amino acid are exposed to the hydrophilic compartment. These results show that in lipopeptide conjugates, the Pam3Cys moiety acts as an efficient membrane anchor for mols. covalently coupled to it. The sequestering of the **fatty-acid** chains of the lipopeptide within the membrane is an early step of interaction, which might induce the uptake of the lipopeptide into the cell and the stimulation of immunocompetent cells.

IT **87420-41-5D**, derivs.
RL: PRP (Properties)
(membrane interaction of, immunoadjuvant activity in relation to)

IT **112208-00-1DP**, reaction product with isothiocyanofluorescein
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and interaction with cell membrane of)

IT **87420-41-5**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aminotetramethylpiperidineoxyl)

IT **112208-00-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with fluorescein isothiocyanate)

L21 ANSWER 31 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:630285 HCAPLUS
DOCUMENT NUMBER: 115:230285
TITLE: Increase in the intracellular free calcium concentration is not an obligatory early event in lipopeptide-induced B-cell activation
AUTHOR(S): Hauschildt, S.; Lueckhoff, A.; Langhorne, J.; Wiesmueller, K. H.; Jung, G.; Bessler, W.; Cambier, J. C.
CORPORATE SOURCE: Inst. Immunbiol., Univ. Freiburg, Freiburg, D-7800, Germany
SOURCE: Immunology (1991), 73(3), 366-8
CODEN: IMMUAM; ISSN: 0019-2805
DOCUMENT TYPE: Journal
LANGUAGE: English

AB It was recently shown that synthetic lipopeptides, analogs of the N-terminal region of bacterial **lipoprotein**, induce DNA synthesis in B lymphocytes in the absence of enhanced phosphatidylinositol 4,5-bisphosphate hydrolysis and protein kinase C translocation. Here is demonstrated that lipopeptides are capable of inducing enhanced expression of MHC class II mols. and early increases in the intracellular free calcium concn. ([Ca2+]i) in B cells. However, they do not effect T cells. The increase in [Ca2+]i seen in B cells is due primarily to Ca2+ release from intracellular stores. Since lipopeptides differ in their capability to induce early increases in [Ca2+]i and since the calcium response does not correlate with the ability of lipopeptides to induce proliferation and expression of MHC class II mols., this biochem. event may not be essential for lipopeptide-mediated B-cell activation.

IT **87173-03-3 87420-41-5 112208-00-1**
RL: BIOL (Biological study)
(bacterial, B-cell activation by, calcium nonessential role in)

L21 ANSWER 32 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:489964 HCAPLUS
DOCUMENT NUMBER: 111:89964
TITLE: Lipopeptide derivatives of bacterial **lipoprotein** constitute potent immune adjuvants combined with or covalently coupled to antigen or hapten
AUTHOR(S): Reitermann, Annette; Metzger, Joerg; Wiesmueller, Karl Heinz; Jung, Guenther; Bessler, Wolfgang C.
CORPORATE SOURCE: Inst. Immunbiol., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.
SOURCE: Biological Chemistry Hoppe-Seyler (1989), 370(4), 343-52
CODEN: BCHSEI; ISSN: 0177-3593
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lipopeptide analogs of the N-terminus of bacterial **lipoprotein** consisting of N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-(R)-cysteine (Pam3Cys) attached to one to five further amino acids [Pam3Cys-Ser-Ser-Asn-Ala, Pam3Cys-Ser-(Lys)4, Pam3Cys-Ala-Gly, and Pam3Cys-Ser] were investigated for biol. activity. In vitro, the compds. were potent activators for Balb/c splenocytes as detd. by proliferation assays. When given in vivo in combination with SRBC, Pam3Cys-Ser and Pam3Cys-Ala-Gly acted as immunoadjuvants enhancing the antigen specific IgM response after 7, and the IgG response after 14 days. In combination with dinitrophenylated bovine serum albumin (BSA(Dnp)), esp. the amphiphilic and water-sol. lipohexapeptide Pam3Cys-Ser-(Lys)4 constituted a potent immune adjuvant. The lipopeptide was able to fully replace Freund's complete adjuvant (FCS) enhancing both anti-Dnp IgM and IgG in Balb/c mice. The hapten Dnp was also coupled directly - or via the spacer mol. 1,6-diaminohexane (HMD) - to the synthetic lipopeptides. The chem. defined low-mol.-mass conjugates obtained were capable of inducing anti-hapten-specific IgM and IgG without further adjuvants or carriers.
IT **87173-03-3 112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(immune adjuvant activity of)
IT **87420-41-5DP**, albumin-dinitrophenyl derivs. **122179-32-2P 122219-56-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and immune adjuvant activity of)

L21 ANSWER 33 OF 33 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:34506 HCAPLUS
DOCUMENT NUMBER: 108:34506
TITLE: Membrane anchor conjugates with active agents, their preparation and uses
PATENT ASSIGNEE(S): Hoechst A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 34 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3546150	A1	19870122	DE 1985-3546150	19851227
FI 8602631	A	19861225	FI 1986-2631	19860619
FI 94419	B	19950531		
FI 94419	C	19950911		
EP 210412	A2	19870204	EP 1986-108324	19860619
EP 210412	A3	19900207		

EP 210412	B1	19951213			
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE					
AT 131491	E	19951215	AT 1986-108324	19860619	
DK 8602940	A	19861225	DK 1986-2940	19860623	
DK 172399	B1	19980518			
NO 8602511	A	19861229	NO 1986-2511	19860623	
NO 174207	B	19931220			
NO 174207	C	19940330			
AU 8658943	A1	19870108	AU 1986-58943	19860623	
AU 611385	B2	19910613			
ZA 8604657	A	19870225	ZA 1986-4657	19860623	
JP 62063600	A2	19870320	JP 1986-145031	19860623	
ES 556417	A1	19880216	ES 1986-556417	19860623	
SU 1823876	A3	19930623	SU 1986-4027766	19860623	
NO 9200356	A	19861229	NO 1992-356	19920127	
US 6024964	A	20000215	US 1995-466695	19950606	] ✓ U.S. fin
US 6074650	A	20000613	US 1995-465709	19950606	

PRIORITY APPLN. INFO.:

DE 1985-3522512	A1	19850624	
DE 1985-3546150	A	19851227	
US 1986-876479	B1	19860620	
NO 1986-2511	A1	19860623	
DE 1988-3813821	A	19880422	
US 1988-229770	B1	19880801	
US 1989-340833	B2	19890420	
US 1989-427914	B1	19891024	
DE 1989-3937412	A	19891110	
US 1990-588794	B2	19900827	
US 1990-610222	B1	19901108	
US 1992-966603	B2	19921026	
US 1993-84091	B1	19930630	
US 1995-387624	B3	19950213	

D/T comp use as pharm.

i.l. wound tx.

AB Active agents (antigens, antibiotics, hormones, enzymes, labels, etc.) are conjugated to compds. which can be inserted into cell membranes. The conjugates are useful e.g. to promote cell fusion, to provide cells with fluorescent or spin labels, etc. The extracytoplasmic region of the EGF receptor encompassing residues 516-529 was constructed by the Merrifield resin method, coupled to fluorenylmethoxycarbonyl(tert-butyl)serine and S-[2,3-bis(palmitoyloxy)propyl]-N-palmitoylcysteinylserine(Pam3Cys-Ser) (the N-terminus of the outer membrane **lipoprotein** of Escherichia coli) as adjuvant, cleaved from the resin, and administered once i.p. to mice. A high titer of antibodies to the EGF receptor peptide was detected within 2 wk.] ⊘

IT **20257-67-4 58725-52-3 87420-41-5**
87420-41-5D, peptide conjugates
RL: ANST (Analytical study)
(as membrane anchor for biol. active agents)

IT **87363-00-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT **112208-01-2P** **112208-02-3DP**, reaction products with FITC **112208-04-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as membrane anchor for biol. active agents)

IT **57-10-3**, reactions **112-67-4 87363-01-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in prepn. of biol. active agents conjugates with membrane anchor compd.)

(ii)

=> select rn 121 1-33
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E4 THROUGH E999 ASSIGNED

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DICTIONARY FILE UPDATES:  19 JUN 2003  HIGHEST RN 534550-98-6

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in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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L22           21 S E1-E999 AND (L5 OR L6 OR L7)

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E1 THROUGH E999 ASSIGNED

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DICTIONARY FILE UPDATES:  19 JUN 2003  HIGHEST RN 534550-98-6

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PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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FILE COVERS 1907 - 20 Jun 2003  VOL 138 ISS 26
FILE LAST UPDATED: 19 Jun 2003  (20030619/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


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=> del select y

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E1 THROUGH E253 ASSIGNED

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FILE 'REGISTRY' ENTERED AT 15:37:01 ON 20 JUN 2003

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 19 JUN 2003 HIGHEST RN 534550-98-6
DICTIONARY FILE UPDATES: 19 JUN 2003 HIGHEST RN 534550-98-6

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

Staple

5-yes
Many refs

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USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 20 Jun 2003  VOL 138 ISS 26
FILE LAST UPDATED: 19 Jun 2003  (20030619/ED)

 This file contains CAS Registry Numbers for easy and accurate
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L7           37 SEA FILE=REGISTRY ABB=ON  PLU=ON 3 GNNDESNISFKEK|GNNDESNISFKEK|G
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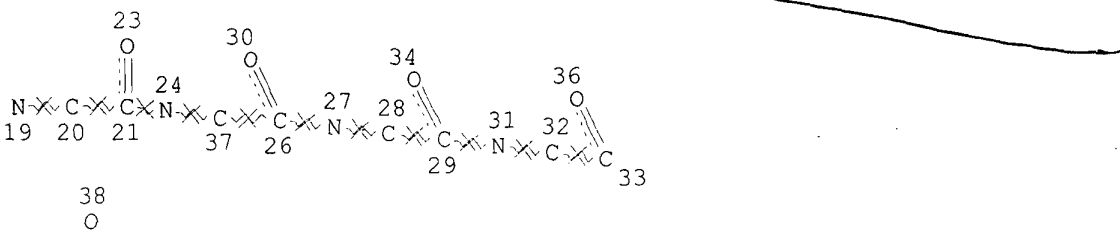
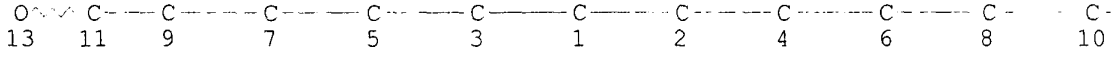
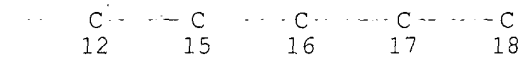




Page 1-A

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Page 1-B
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NSPEC   IS RC     AT  21
NSPEC   IS RC     AT  24
NSPEC   IS RC     AT  26
NSPEC   IS RC     AT  27
NSPEC   IS RC     AT  28
NSPEC   IS RC     AT  29
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LEADING STRUCTURE B/F EACH of 4 SEQ's [& slight Struct. variants - i.e. #

(IV) (25) only

(V) NO (ans) or (25)

NSPEC IS RC AT 31
NSPEC IS RC AT 32
NSPEC IS RC AT 33
NSPEC IS RC AT 37
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 34

P.D. 5/20/98

STEREO ATTRIBUTES: NONE
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L38 264 SEA FILE=HCAPLUS ABB=ON PLU=ON L37
L39 54 SEA FILE=HCAPLUS ABB=ON PLU=ON L38 AND (L10 OR L11 OR L12)

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L39 ANSWER 1 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:129143 HCAPLUS
DOCUMENT NUMBER: 138:186309
TITLE: Cutting edge:distinct Toll-like receptor 2 activators selectively induce different classes of mediator prodn. from human mast cells
AUTHOR(S): McCurdy, Jeffrey D.; Olynych, Timothy J.; Maher, Lauren H.; Marshall, Jean S.
CORPORATE SOURCE: Department of Microbiology, Dalhousie University, Halifax, NS, Can.
SOURCE: Journal of Immunology (2003), 170(4), 1625-1629
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mast cells play a crit. role in host defense against bacterial infection. Murine mast cells produce cytokines in response to bacterial peptidoglycan and LPS via Toll-like receptor (TLR) TLR2- and TLR4-dependent mechanisms. The expression of TLRs by human mast cells and responses to known TLR activators was examd. Human mast cells expressed mRNA for TLR1, TLR2, and TLR6 but not TLR4. Bacterial peptidoglycan and yeast zymosan were potent inducers of GM-CSF and IL-1.beta. and also induced substantial short-term cysteinyl leukotriene generation. In contrast, a synthetic triacylated lipopeptide induced short-term degranulation but failed to induce cysteinyl leukotriene prodn. The TLR4 activator Escherichia coli LPS did not induce a GM-CSF, IL-1.beta. leukotriene, or degranulation response. These data demonstrate highly selective prodn. of different classes of mast cell mediators in response to distinct TLR activators of potential importance to the host response to bacterial or fungal pathogens.
IT **112208-00-1**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(distinct Toll-like receptor 2 activators selectively induce different classes of mediator prodn. from human mast cells)
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:90797 HCAPLUS
DOCUMENT NUMBER: 138:220314
TITLE: Recognition of lipopeptides by Toll-like receptors
AUTHOR(S): Takeda, Kiyoshi; Takeuchi, Osamu; Akira, Shizuo

CORPORATE SOURCE: Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, Osaka, 565-0871, Japan
SOURCE: Journal of Endotoxin Research (2002), 8(6), 459-463
CODEN: JENREB; ISSN: 0968-0519
PUBLISHER: Maney Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Toll-like receptors (TLRs) recognize specific mol. patterns present only in micro-organisms and thereby activate innate immune cells. TLR2 is essential for the recognition of peptidoglycan and lipoprotein/lipopeptides. Lipoprotein/lipopeptides are obsd. in cell walls of a variety of micro-organisms. Host immune cells recognize the specific patterns of lipoprotein/lipopeptides through the assocn. of TLR2 with other TLRs. TLR1 and TLR6 are highly homologous to TLR2 in structure. TLR6-deficient mice showed an impaired response to mycoplasmal lipopeptides that are diacylated, whereas TLR1-deficient mice were defective in their response to bacterial lipopeptides that are triacylated. TLR2-deficient mice did not show any inflammatory response to either type of lipopeptide. The functional assocn. of TLR2 with TLR1 or TLR6 has been demonstrated. Thus, TLR1 and TLR6 are involved in the discrimination of a subtle difference between triacyl and diacyl lipopeptides through interaction with TLR2.
IT **112208-00-1 250718-44-6**, MALP-2 **444796-71-8 444796-72-9 444796-73-0**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(recognition of lipopeptides by Toll-like receptors)
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:3257 HCAPLUS
DOCUMENT NUMBER: 138:88605
TITLE: Differential recognition of structural details of bacterial lipopeptides by toll-like receptors
AUTHOR(S): Morr, Michael; Takeuchi, Osamu; Akira, Shizuo; Simon, Markus M.; Muhlradt, Peter F.
CORPORATE SOURCE: Research Group Molecular Recognition of the Gesellschaft fur Biotechnologische Forschung, Braunschweig, Germany
SOURCE: European Journal of Immunology (2002), 32(12), 3337-3347
CODEN: EJIMAF; ISSN: 0014-2980
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The question which detailed structures of bacterial modulins det. their relative biol. activity and resp. host cell receptors was examd. with synthetic variants of mycoplasmal lipopeptides as model compds., as well as recombinant outer surface protein A (OspA) of Borrelia burgdorferi and lipoteichoic acid. Mouse fibroblasts bearing genetic deletions of various toll-like receptors (TLR) were the indicator cells to study receptor requirements, primary macrophages served to measure dose response. The following results were obtained: (i) the TLR system discriminates between modulins with three and those with two long-chain fatty acids in their lipid moiety, in that lipopeptides with three fatty acids were recognized by TLR2, whereas those with two long-chain fatty acids and lipoteichoic acid required the addnl. cooperation with TLR6; (ii) substitution of the free N terminus of mycoplasmal lipopeptides with an acetyl or palmitoyl group decreased the specific activity; (iii) removal of one or both ester-bound fatty acids lowered the specific activity by five orders of magnitude or deleted biol. activity; (iv) oxidn. of the thioether group lowered the specific activity by at least four orders of magnitude. The

implications of these findings for physiol. inactivation of lipopeptides and host-bacteria interactions in general are discussed.

IT **219986-24-0 250718-44-6**, MALP 2 **484648-56-8 484648-57-9**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(recognition of bacterial lipopeptides by toll-like receptors)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:633191 HCAPLUS
DOCUMENT NUMBER: 137:309099
TITLE: Lipopeptide adjuvants: monitoring and comparison of P3CSK4- and LPS-induced gene transcription
AUTHOR(S): Muller, M. R.; Wiesmuller, K.-H.; Jung, G.; Loop, T.; Humar, M.; Pfannes, S. D. C.; Bessler, W. G.; Mittenbuhler, K.
CORPORATE SOURCE: Institut fur Molekulare Medizin und Zellforschung, AK Tumorimmunologie/Vakzine, Universitat Freiburg, Freiburg, D-79104, Germany
SOURCE: International Immunopharmacology (2002), 2(8), 1065-1077
CODEN: IINMBA; ISSN: 1567-5769
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Bacteria-derived synthetic lipoproteins constitute potent macrophage activators in vivo and are effective stimuli, enhancing the immune response esp. with respect to low or non-immunogenic compds. N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2R,S)-propyl]-(R)-cysteinyl-seryl-(lysyl)3-lysine (P3CSK4), exhibiting one of the most effective lipopeptide derivs., represents a highly efficient immunoadjuvant in parenteral, oral, nasal and genetic immunization either in combination with or after covalent linkage to antigen. In order to further elucidate its mol. mode of action with respect to the transcriptional level, we focused our investigations on the P3CSK4-induced modulation of gene transcription. We could show that P3CSK4 activates/represses an array of at least 140 genes partly involved in signal transduction and regulation of the immune response. P3CSK4 activates the expression of tumor suppressor protein p53 (p53), c-rel, inhibitor of nuclear factor kappa B (NF.kappa.B) alpha (I.kappa.B.alpha.), type 2 (inducible) nitric oxide (NO) synthase (iNOS), CD40-LR, intercellular adhesion mol.-1 (ICAM-1) and interleukin 1/6/15 (IL-1/6/15). We detected no activation of heat shock protein (HSP) 27, 60, 84 and 86, osmotic stress protein 94 (Osp 94), IL-12, extracellular signal-regulated protein kinase 1 (ERK1), p38 mitogen activated protein (MAP)-kinase (p38), c-Jun NH2-terminal kinase (JNK), signal transducer and activator of transcription 1 (STAT1), CD14 and caspase genes. Furthermore, we monitored inhibition of STAT6, Janus kinase 3 (Jak3) and cyclin D1/D3 gene transcription after stimulating bone marrow-derived macrophages (BMDM) with lipopeptide. In addn., we monitored significant differences after lipopeptide and lipopolysaccharide (LPS) stimulation of bone marrow-derived murine macrophages. Our findings are of importance for further optimizing both conventional and genetic immunization, and for the development of novel synthetic vaccines.

IT **112208-00-1**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(effect of P3CSK4 lipopeptide adjuvant on gene transcription)

REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 5 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:594693 HCAPLUS
DOCUMENT NUMBER: 137:159335

TITLE: Anticancer agents containing M161 antigen-derived peptides
INVENTOR(S): Seya, Tsukasa; Matsumoto, Misako; Naito, Kenichiro
PATENT ASSIGNEE(S): Takeda Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060469	A1	20020808	WO 2002-JP578	20020128

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 2002308799	A2	20021023	JP 2002-18889	20020128

PRIORITY APPLN. INFO.: JP 2001-19416 A 20010129

AB Disclosed are medicinal compns. such as anticancer agents, T cell differentiation inductive cytokine-inducing agents, immature dendritic cell maturation-inducing agents and the like which contain an M161 antigen peptide fragment, its prodrug or a salt thereof; and a method of screening a substance useful as an anticancer agent, etc. with the use of M161 antigen, its peptide fragment or a salt thereof. The effect of MALP-2 peptide on immature dendritic cell maturation and IL-12p40 secretion was in vitro tested. A tablet contg. MALP-2 10 mg/tablet was prepd. for administration with a tablet contg. leuprorelin acetate 10 mg/tablet.

IT **250718-44-6**, MALP 2
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(anticancer agents contg. M161 antigen-derived peptides)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 6 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:506075 HCAPLUS
DOCUMENT NUMBER: 137:139306
TITLE: Cutting edge: role of toll-like receptor 1 in mediating immune response to microbial lipoproteins
AUTHOR(S): Takeuchi, Osamu; Sato, Shintaro; Horiuchi, Takao; Hoshino, Katsuaki; Takeda, Kiyoshi; Dong, Zhongyun; Modlin, Robert L.; Akira, Shizuo
CORPORATE SOURCE: Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, Osaka, 565-0871, Japan
SOURCE: Journal of Immunology (2002), 169(1), 10-14
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The Toll-like receptor (TLR) family acts as pattern recognition receptors for pathogen-specific mol. patterns (PAMPs). TLR2 is essential for the signaling of a variety of PAMPs, including bacterial lipoprotein/lipopeptides, peptidoglycan, and GPI anchors. TLR6 assocs. with TLR2 and recognizes diacylated mycoplasmal lipopeptide along with TLR2. We report here that TLR1 assocs. with TLR2 and recognizes the

native mycobacterial 19-kDa lipoprotein along with TLR2. Macrophages from TLR1-deficient (TLR1-/-) mice showed impaired proinflammatory cytokine prodn. in response to the 19-kDa lipoprotein and a synthetic triacylated lipopeptide. In contrast, TLR1-/- cells responded normally to diacylated lipopeptide. TLR1 interacts with TLR2 and coexpression of TLR1 and TLR2 enhanced the NF-.kappa.B activation in response to a synthetic lipopeptide. Furthermore, lipoprotein analogs whose acylation was modified were preferentially recognized by TLR1. Taken together, TLR1 interacts with TLR2 to recognize the lipid configuration of the native mycobacterial lipoprotein as well as several triacylated lipopeptides.

IT **112208-00-1 444796-71-8 444796-72-9 444796-73-0**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(toll-like receptor 1 in mediating immune response to microbial lipoproteins)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 7 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:489700 HCAPLUS
DOCUMENT NUMBER: 137:92714
TITLE: Synergic effects of mycoplasmal lipopeptides and extracellular ATP on activation of macrophages
AUTHOR(S): Into, Takeshi; Fujita, Mari; Okusawa, Tsugumi; Hasebe, Akira; Morita, Manabu; Shibata, Ken-Ichiro
CORPORATE SOURCE: Department of Oral Pathobiological Science, Hokkaido University Graduate School of Dental Medicine, Sapporo, 060-8586, Japan
SOURCE: Infection and Immunity (2002), 70(7), 3586-3591
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mycoplasmal lipopeptides S-(2,3-bispalmitoyloxypropyl)-CGDPKHSPKSF and S-(2,3-bispalmitoyloxypropyl)-CGNNDESNISFKEK activated a monocytic cell line, THP-1 cells, to produce tumor necrosis factor alpha. The activity of the lipopeptides was augmented by ATP in a dose-dependent manner. In addn., the level of expression of mRNAs for tumor necrosis factor alpha and interleukin-1.beta., -6, and -8 was also upregulated by the lipopeptides and/or extracellular ATP, but that of interleukin-10 was not. The P2X purinergic receptor antagonists pyridoxal phosphate 6-azophenyl 2',4'-disulfonic acid and periodate-oxidized ATP suppressed the activity of ATP to augment the activation of THP-1 cells by the lipopeptides, suggesting that P2X receptors play important roles in the activity of ATP. The nuclear factor .kappa.B inhibitor dexamethasone also suppressed the activity, suggesting that the activity of ATP is dependent upon the nuclear factor .kappa.B. Thus, these results suggest that the interaction of extracellular ATP with the P2X receptors is attributed to the activity of ATP to augment the activation of THP-1 cells by mycoplasmal lipopeptides.

IT **219986-22-8 431045-34-0**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(synergic effects of mycoplasmal lipopeptides and extracellular ATP on activation of macrophages)

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 8 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:409627 HCAPLUS
DOCUMENT NUMBER: 138:37649
TITLE: Modulation of the Th1/Th2 bias by lipopetide and saponin adjuvants in orally immunized mice

AUTHOR(S): Huber, Maria; Baier, Wiltrud; Bessler, Wolfgang G.; Heinevetter, Lutz
CORPORATE SOURCE: Institut fur Molekulare Medizin und Zellforschung, AK Tumorimmunologie/Vakzine, Universitatsklinikum Freiburg, Freiburg, Germany
SOURCE: Immunobiology (2002), 205(1), 61-73
CODEN: IMMND4; ISSN: 0171-2985
PUBLISHER: Urban & Fischer Verlag GmbH & Co. KG
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We compared the adjuvanticity of the synthetic lipopeptide P3CSK4 of bacterial origin and the plant-derived adjuvant saponin using the wheat storage protein gliadin as antigen. Gluten-sensitive BALB/c mice were orally immunized with gliadin in a mixt. with either lipopeptide or saponin. The gliadin-specific serum IgG response was markedly enhanced by the saponin adjuvant. The lipopeptide adjuvant enhanced the IgG2a response, but reduced IgG1 prodn. In contrast, the saponin adjuvant enhanced both IgG2a and IgG1, and the sera showed elevated specific IgE concns. Enhanced specific IgA levels were detected in sera and in feces esp. after immunizations with gliadin in combination with P3CSK4. Enhanced specific IgG and IgA levels could also be detected in supernatants of cell cultures prepd. from mesenteric lymph nodes and Peyer's patches of immunized mice. Our data suggest that both adjuvants enhance the mucosal as well as the systemic immune response; P3CSK4 predominantly elicits the activation of the Th1 subset, whereas saponin activates both the Th1 and Th2 subset. Our findings are of importance for the improvement of mucosal immunizations, and might be a tool for the immunotherapy of food allergies.

IT **112208-00-1**
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(modulation of the Th1/Th2 bias by lipopetide P3CSK4 and saponin adjuvants in orally immunized mice)

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 9 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:276014 HCAPLUS
DOCUMENT NUMBER: 136:304087
TITLE: Use of lipopeptides or lipoproteins for treating lung infections and lung tumors
INVENTOR(S): Muehlradt, Peter; Luehrmann, Anke; Tschernig, Thomas; Pabst, Reinhard
PATENT ASSIGNEE(S): Gesellschaft fuer Biotechnologische Forschung m.b.H. (GBF), Germany
SOURCE: PCT Int. Appl., 10 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002028887	A2	20020411	WO 2001-EP11414	20011002
WO 2002028887	A3	20021219		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10048840	A1	20020411	DE 2000-10048840	20001002
AU 2002020584	A5	20020415	AU 2002-20584	20011002
PRIORITY APPLN. INFO.:			DE 2000-10048840 A	20001002
			WO 2001-EP11414 W	20011002

OTHER SOURCE(S): MARPAT 136:304087

AB The invention relates to the use of a lipopeptide or lipoprotein for preventing lung inflammation, for increasing the amt. of lymphatic tissue in the bronchial mucosa and for treating lung infections and lung tumors. Said lipopeptide or lipoprotein has the general structure, H2NCH(CH2XCH2CH*(OCOR2)CH2OCOR1)WYCO2H, wherein R1 and R2 can be the same or different and represent C7-25 alkyl, C7-25 alkenyl or C7-25 alkinyl, X represents S, O or CH2, W represents CO or S(O)n (n = 1 or 2) and Y represents a physiol. acceptable amino acid sequence consisting of between 1 and 13 amino acid radicals, and the asym. carbon atom marked with * has the abs. S-configuration when X = S (sulfur).

IT **219986-22-8 250718-45-7**

RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(use of lipopeptides or lipoproteins for treating lung infections and lung tumors)

L39 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:262068 HCAPLUS

DOCUMENT NUMBER: 136:368216

TITLE: The proinflammatory CD14+CD16+DR++ monocytes are a major source of TNF

AUTHOR(S): Belge, Kai-Uwe; Dayyani, Farshid; Horelt, Alexia; Siedlar, Maciej; Frankenberger, Marion; Frankenberger, Bernhard; Espevik, Terje; Ziegler-Heitbrock, Loms

CORPORATE SOURCE: Institute for Immunology, University of Muenchen, Munich, Germany

SOURCE: Journal of Immunology (2002), 168(7), 3536-3542
CODEN: JOIMA3; ISSN: 0022-1767

PUBLISHER: American Association of Immunologists

DOCUMENT TYPE: Journal

LANGUAGE: English

AB In human blood two monocyte populations can be distinguished, i.e., the CD14++CD16-DR+ classical monocytes and the CD14+CD16+DR++ proinflammatory monocytes that account for only 10% of all monocytes. The authors have studied TNF prodn. in these two types of cells using three-color immunofluorescence and flow cytometry on whole peripheral blood samples stimulated with either LPS or with the bacterial lipopeptide S-(2,3-bis(palmitoyloxy)-(2-RS)-propyl)-N-palmitoyl-(R)-Cys-(S)-Ser-(S)-Lys4-OH,trihydrochloride (Pam3Cys). After stimulation with LPS the median fluorescence intensity for TNF protein was 3-fold higher in the proinflammatory monocytes when compared with the classical monocytes. After stimulation with Pam3Cys they almost exclusively responded showing 10-fold-higher levels of median fluorescence intensity for TNF protein. The median fluorescence intensity for Toll-like receptor 2 cell surface protein was found 2-fold higher on CD14+CD16+DR++ monocytes, which may explain, in part, the higher Pam3Cys-induced TNF prodn. by these cells. When analyzing secretion of TNF protein into the supernatant in PBMCs after depletion of CD16+ monocytes the authors found a redn. of LPS-induced TNF by 28% but Pam3Cys-induced TNF was reduced by 64%. This indicates that the minor population of CD14+CD16+ monocytes are major producers of TNF in human blood.

IT **112208-04-5**

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(tumor necrosis factor prodn. by human monocyte subsets activated by)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:419894 HCAPLUS
DOCUMENT NUMBER: 135:237880
TITLE: MALP-2, a Mycoplasma lipopeptide with classical endotoxic properties: end of an era of LPS monopoly?
AUTHOR(S): Galanos, C.; Gumenscheimer, M.; Muhlradt, P. F.; Jirillo, E.; Freudenberg, M. A.
CORPORATE SOURCE: Max-Planck Institut fur Immunbiologie, Freiburg, 79108, Germany
SOURCE: Journal of Endotoxin Research (2000), 6(6), 471-476
CODEN: JENREB; ISSN: 0968-0519
PUBLISHER: Maney Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Although some activities of LPS are shared by other bacterial components, for half a century LPS has been regarded as unique in displaying many pathophysiol. activities. Here we report on a synthetic lipopeptide, MALP-2 from Mycoplasma fermentans, which expresses potent endotoxin-like activity and whose lethal toxicity is comparable to that of LPS. With the exception of the Limulus lysate gelation test, in which MALP-2 was approx. 1000-fold less active than LPS, the synthetic lipopeptide induced all activities tested for, and in most cases to an extent comparable to that of LPS. Unlike LPS, the biol. activities of MALP-2 were expressed both in LPS-responder and in LPS-non-responder mice (BALB/c/1, C57BL10/ScCr), indicating that MALP-2 signaling, unlike that of LPS, is not transduced via the Toll-like receptor (TIr) 4 protein. MALP-2 expressed no toxicity in normal or sensitized TIr2 knockout (TIr2-/-) mice indicating that its toxic activity is induced via TIr2 signaling. The phenomenol. of the lethal shock induced by MALP-2 in normal or sensitized mice, i.e. the kinetics of its development and symptoms of illness exhibited by the treated animals, was very reminiscent of the lethal shock induced by LPS.
IT **250718-44-6**
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(MALP-2, Mycoplasma lipopeptide with classical endotoxic properties)
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:395732 HCAPLUS
DOCUMENT NUMBER: 135:179629
TITLE: Immunostimulation by the synthetic lipopeptide P3CSK4: TLR4-independent activation of the ERK1/2 signal transduction pathway in macrophages
AUTHOR(S): Muller, Markus R.; Pfannes, Silke D. C.; Ayoub, Mohamed; Hoffmann, Petra; Bessler, Wolfgang G.; Mittenbuhler, Klaus
CORPORATE SOURCE: Inst. Mol. Med. Zellforsch., Univ. Freiburg, Freiburg, D-79104, Germany
SOURCE: Immunology (2001), 103(1), 49-60
CODEN: IMMUAM; ISSN: 0019-2805
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Synthetic lipopeptides based on bacterial lipoprotein are efficient activators for monocytes/macrophages inducing the release of interleukin (IL)-1, IL-6, tumor necrosis factor-.alpha. (TNF-.alpha.), reactive oxygen/nitrogen intermediates, and the translocation of nuclear factor .kappa.B (NF.kappa.B). In this report the authors investigate the signal transduction pathways involved in leukocyte activation by the synthetic lipopeptide N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2R,S)-propyl]-(R)-cysteinyl-seryl-(lysyl)3-lysine (P3CSK4). The authors show that P3CSK4 activates mitogen-activated protein (MAP)-kinases ERK1/2 and MAP kinase

(MAPK)-kinases MEK1/2 in bone-marrow-derived macrophages (BMDM) and in the macrophage cell line RAW 264.cntdot.7. Addnl., the authors could detect differences between the P3CSK4 and lipopolysaccharide (LPS)-induced phosphorylation of MAP kinases: Different levels in phosphorylation were found both in kinetics and dose-response using RAW 264.7 cells or BMDM from BALB/c and LPS responder mice (C57BL/10ScSn) or LPS non-responder mice (C57BL/10ScCr). The lipopeptide activated the MAPK-signaling cascade in both LPS responder and non-responder macrophages, whereas LPS induced the MAPK signaling pathway only in macrophages derived from LPS responder mice. An approx. 70% decrease of lipopeptide induced NF.kappa.B translocation and an about 50% redn. of nitric oxide (NO) release was obsd. in the presence of anti-CD14. These data correspond to the redn. of phosphorylation of ERK1/2 after stimulation with P3CSK4 in the presence of anti-CD14 antibodies. Inhibition of MEK1/2 by PD 98059 completely reduced the lipopeptide-induced phosphorylation of ERK1/2 indicating that MEK1/2 are solely responsible for the phosphorylation of the downstream-located MAP kinases ERK1/2.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(synthetic lipopeptide activation of MAP kinase signal transduction pathway in macrophages)

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 13 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:206294 HCAPLUS
DOCUMENT NUMBER: 135:271464
TITLE: Adjuvant effects of various lipopeptides and interferon-.gamma. on the humoral immune response of chickens
AUTHOR(S): Erhard, M. H.; Schmidt, P.; Zinsmeister, P.; Hofmann, A.; Munster, U.; Kaspers, B.; Wiesmuller, K. -H.; Bessler, W. G.; Stangassinger, M.
CORPORATE SOURCE: Institut fur Physiologie, Physiologische Chemie und Tierernahrung, Tierarztliche Fakultat, Universitat Munchen, Munchen, 80539, Germany
SOURCE: Poultry Science (2000), 79(9), 1264-1270
CODEN: POSCAL; ISSN: 0032-5791
PUBLISHER: Poultry Science Association, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The adjuvant effects of various lipopeptides and recombinant chicken interferon .gamma. (IFN-.gamma.) on the humoral immune response of laying hens was investigated in 4 immunization studies. The authors used the lipopeptide Pam3Cys-Ser-(Lys)4 (PCSL), the conjugate P-Th1 consisting of the lipopeptide P3CS and the T-helper epitope Th1 (FISEAIIHVLHSRHPG), and the conjugate P-Th2 of the lipopeptide P3CSS and the T-helper epitope Th2, which corresponds to the peptide EWEFVNTPPLV, as adjuvants. Human serum albumin (HSA), recombinant bovine somatotropin (RBST), and human IgG served as antigens in the different expts. All tested adjuvants enhanced the humoral immune response with various intensities. Chickens showed high antibody titers after the immunization with HSA even without adjuvant, but the adjuvant effects of PCSL and the combination of PCSL and recombinant chicken interferon-.gamma. (IFN-.gamma.) were much more pronounced using the antigens RBST and IgG. Esp. after the third immunization, higher titers of antibodies were induced by the coadministration of P-Th1 and, to a greater extent, by the combination of PCSL and P-Th1 compared with the use of PCSL. Also, chickens that had received PCSL and P-Th2 showed the highest immune response, even after the second booster. The av. concns. of chicken IgY were higher in 5-mo-old chickens (9.4 mg/mL serum and 10.1 mg/mL egg yolk) compared with 9-mo-old chickens (5.9 mg/mL serum and 5.1 mg/mL egg yolk). The specific serum

antibody response was higher in the older chickens than in the younger chickens. Because chicken antibodies are likely to be used increasingly for diagnostics and therapy in the future, lipopeptides and recombinant chicken IFN-.gamma. may find many applications as adjuvants, thus contributing to the welfare of exptl. animals.

IT **112208-00-1 202123-06-6 273723-06-1**
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(adjuvant effects of various lipopeptides and interferon-.gamma. on humoral immune response of chickens)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:121740 HCAPLUS
DOCUMENT NUMBER: 135:240618
TITLE: Lipopeptide adjuvants: Generation of lactate dehydrogenase isoenzyme-specific antibodies for immunochemical diagnosis
AUTHOR(S): Gampp, T. M.; Moser, I.; Jobst, G.; Urban, G.; Ayoub, M.; Pfannes, S. D. C.; Hoffmann, P.; Bessler, W. G.; Mittenbuhler, K.
CORPORATE SOURCE: Institut fur Mikrosystemtechnik der Universitat, AG Bioanalytische Mikrosysteme, Freiburg, Germany
SOURCE: European Journal of Medical Research (2001), 6(1), 10-20
CODEN: EJMRFL; ISSN: 0949-2321
PUBLISHER: I. Holzapfel Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lactate dehydrogenase catalyzes the final step in glycolysis, the interconversion of pyruvate and lactate. The tetrameric enzyme is composed of one or two subunits (H and/or M) resulting in five isoenzyme forms: LDH-H4, -H3M1, -H2M2, -H1M3, and -M4. The relative distribution of the LDH isoenzymes is tissue dependent and a significant marker for the diagnosis of hepatoma of the liver, myocardial infarction, muscular dystrophy, and a wide variety of other acute and chronic diseases to be detected by alterations of the LDH isoenzyme pattern in serum. Immunochem. approaches to the routine detn. of LDH depend on isoenzyme specific antibodies. Since the H- and M-subunits for human LDH are highly homologous, LDH isoenzyme specific antibodies for immunochem. monitoring are hard to generate. Here we present data on the generation and characterization of LDH isoenzyme-specific mono- and polyclonal antibodies in different species in the presence of lipopeptide adjuvants. Western-Blot and ELISA anal. showed that antisera and monoclonal antibodies recognize their homologous antigens with high specificity and are therefore suitable for immunochem. monitoring of the LDH isoenzymes H4 and M4. In addn., they can be used for the detn. of LDH isoenzyme specific activity which is an essential prerequisite for online amperometric immunosensor monitoring.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(lipopeptide adjuvants for generation of lactate dehydrogenase isoenzyme-specific antibodies for immunochem. diagnosis of diseases)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:77125 HCAPLUS
DOCUMENT NUMBER: 134:192198
TITLE: Immunostimulation by bacterial components: I. Activation of macrophages and enhancement of genetic

immunization by the lipopeptide P3CSK4
AUTHOR(S): van der Esche, U.; Ayoub, M.; Pfannes, S. D. C.; Muller, M. R.; Huber, M.; Wiesmuller, K.-H.; Loop, T.; Humar, M.; Fischbach, K.-F.; Strunkelnberg, M.; Hoffmann, P.; Bessler, W. G.; Mittenbuhler, K.
CORPORATE SOURCE: Institut fur Molekulare Medizin und Zellforschung der Universitat Freiburg, AK Tumorimmunologie/Vakzine, Fakultat fur Biologie, Freiburg, D-79104, Germany
SOURCE: International Journal of Immunopharmacology (2000), 22(12), 1093-1102
CODEN: IJIMDS; ISSN: 0192-0561
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Synthetic lipopeptides derived from the N-terminus of bacterial lipoprotein constitute potent macrophage activators and polyclonal B-lymphocyte stimulators. They are also efficient immunoadjuvants in parenteral, oral and nasal immunization either in combination with or after covalent linkage to an antigen. Here the authors show how alterations in the mol. structure influence their biol. properties indicating P3CSK4 as one of the most active members of a lipopentapeptide fatty acid library. This compd. resulted in a most pronounced macrophage stimulation as indicated by NO release, activation of NF.kappa.B translocation, and enhancement of tyrosine protein phosphorylation. Furthermore, P3CSK4 activates/represses an array of at least 140 genes partly involved in signal transduction and regulation of the immune response. Finally the authors have evidence that P3CSK4 constitutes an effective adjuvant for DNA immunizations, esp. increasing weak humoral immune responses. Our findings are of importance for further optimizing both conventional and genetic immunization, and for the development of novel synthetic vaccines.
IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(immunostimulatory activity for macrophage of)
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 16 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:878412 HCAPLUS
DOCUMENT NUMBER: 134:161703
TITLE: The repertoire for pattern recognition of pathogens by the innate immune system is defined by cooperation between Toll-like receptors
AUTHOR(S): Ozinsky, Adrian; Underhill, David M.; Fontenot, Jason D.; Hajjar, Adeline M.; Smith, Kelly D.; Wilson, Christopher B.; Schroeder, Lea; Aderem, Alan
CORPORATE SOURCE: Department of Immunology, University of Washington, Seattle, WA, 98195, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2000), 97(25), 13766-13771
CODEN: PNASA6; ISSN: 0027-8424
PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Toll-like receptors (TLRs) have been shown to participate in the recognition of pathogens by the innate immune system, but it is not clear how a restricted family of receptors has the capacity to recognize the wide spectrum of TLR stimuli known to exist. The authors report here that two members of the TLR family, TLR2 and TLR6, together coordinate macrophage activation by Gram-pos. bacteria and the yeast cell-wall particle, zymosan. TLR6 and TLR2 both are recruited to the macrophage phagosome, where they recognize peptidoglycan, a Gram-pos. pathogen

component. By contrast, TLR2 recognizes another component, bacterial lipopeptide, without TLR6. The requirement for TLR cooperation is supported by the finding that TLR2 needs a partner to activate tumor necrosis factor-.alpha. prodn. in macrophages. Dimerization of the cytoplasmic domain of TLR2 does not induce tumor necrosis factor-.alpha. prodn. in macrophages, whereas similar dimerization of the TLR4 cytoplasmic domain does. The authors show that the cytoplasmic domain of TLR2 can form functional pairs with TLR6 or TLR1, and this interaction leads to cytokine induction. Thus, the cytoplasmic tails of TLRs are not functionally equiv., with certain TLRs requiring assembly into heteromeric complexes, whereas others are active as homomeric complexes. Finally, the authors show that TLR6, TLR2, and TLR1 are recruited to macrophage phagosomes that contain IgG-coated erythrocytes that do not display microbial components. The data suggest that TLRs sample the contents of the phagosome independent of the nature of the contents, and can establish a combinatorial repertoire to discriminate among the large no. of pathogen-assocd. mol. patterns found in nature.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(repertoire for pattern recognition of pathogens by innate immune system is defined by cooperation between Toll-like receptors)

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 17 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:359045 HCAPLUS
DOCUMENT NUMBER: 133:134034
TITLE: Antibodies against thrombospondin-related anonymous protein do not inhibit Plasmodium sporozoite infectivity in vivo
AUTHOR(S): Gantt, Soren; Persson, Cathrine; Rose, Keith; Birkett, Ashley J.; Abagyan, Ruben; Nussenzweig, Victor
CORPORATE SOURCE: Department of Pathology, New York University School of Medicine, New York, NY, 10016, USA
SOURCE: Infection and Immunity (2000), 68(6), 3667-3673
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Thrombospondin-related anonymous protein (TRAP), a candidate malaria vaccine antigen, is required for Plasmodium sporozoite gliding motility and cell invasion. For the first time, the ability of antibodies against TRAP to inhibit sporozoite infectivity in vivo is evaluated in detail. TRAP contains an A-domain, a well-characterized adhesive motif found in integrins. We modeled here a three-dimensional structure of the TRAP A-domain of Plasmodium yoelii and located regions surrounding the MIDAS (metal ion-dependent adhesion site), the presumed business end of the domain. Mice were immunized with constructs contg. these A-domain regions but were not protected from sporozoite challenge. Furthermore, monoclonal and rabbit polyclonal antibodies against the A-domain, the conserved N terminus, and the repeat region of TRAP had no effect on the gliding motility or sporozoite infectivity to mice. TRAP is located in micronemes, secretory organelles of apicomplexan parasites. Accordingly, the antibodies tested here stained cytoplasmic TRAP brightly by immunofluorescence. However, very little TRAP could be detected on the surface of sporozoites. In contrast, a dramatic relocalization of TRAP onto the parasite surface occurred when sporozoites were treated with calcium ionophore. This likely mimics the release of TRAP from micronemes when a sporozoite contacts its target cell in vivo. Contact with hepatoma cells in culture also appeared to induce the release of TRAP onto the surface of sporozoites. If large amts. of TRAP are released in close

proximity to its cellular receptor(s), effective competitive inhibition by antibodies may be difficult to achieve.

IT **285558-10-3**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with peptides to form tetraoxime)

IT **286021-30-5P 286021-31-6P 286021-32-7P**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(reaction with tetrabranched core to form tetraoxime and immunization with)

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 18 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:256843 HCAPLUS
DOCUMENT NUMBER: 133:53083
TITLE: Development and validation of an indirect enzyme-linked immunosorbent assay (ELISA) for the nonsteroidal anti-inflammatory drug S-ibuprofen
AUTHOR(S): Grafe, K. A.; Hoffmann, H.
CORPORATE SOURCE: Institute for Pharmaceutical Chemistry, Johann Wolfgang Goethe-University, Frankfurt, Germany
SOURCE: Pharmazie (2000), 55(4), 286-292
CODEN: PHARAT; ISSN: 0031-7144
PUBLISHER: Govi-Verlag Pharmazeutischer Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An indirect ELISA was developed for the nonsteroidal anti-inflammatory drug (NSAID) S-ibuprofen. Conjugates for immunization were prepd. by linking S-ibuprofen via the spacer 4-aminobutyric acid to bovine serum albumin as well as to a novel synthetic lipopeptide using the N-hydroxysuccinimide/dicyclohexyl-carbodiimide method. Immunization with these immunogens was carried out in New Zealand rabbits. A poly-L-lysine-S-ibuprofen conjugate was used as a hapten-carrier for coating the surface of the microtiter plates with the hapten. Horse-radish peroxidase labeled anti-rabbit IgG served as secondary antibody using hydrogen peroxide and ABTS as substrates. The characterization of the polyclonal antiserum with compds. of analogous structure demonstrated that the antiserum possesses a very high specificity for S-ibuprofen (cross-reactivity <0.14-1.4%). Addnl. cross-reactivity expts. using R-ibuprofen (cross-reactivity 50.5%), ibufenac (58%) and isopropylphenylacetic acid (6.4%) were carried out to obtain more detailed information about the antigenic recognition concerning the chiral center. The results indicated that the polyclonal antiserum possesses an addnl. antibody population, whose antigenic recognition did not contain the chiral center. The upper and lower limits of quantification of the developed ELISA were defined as 362 and 3.62 ng S-ibuprofen/mL, resp., based on a 90% confidence interval.

IT **112208-00-1DP**, S-ibuprofen conjugate
RL: SPN (Synthetic preparation); PREP (Preparation)
(development and validation of indirect ELISA for NSAID S-ibuprofen)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 19 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:235037 HCAPLUS
DOCUMENT NUMBER: 133:29419
TITLE: Generation of antibodies directed against the low-immunogenic peptide-toxins microcystin-LR/RR and nodularin
AUTHOR(S): Baier, W.; Loleit, M.; Fischer, B.; Jung, G.; Neumann,

U.; Weiss, M.; Weckesser, J.; Hoffmann, P.; Bessler, W. G.; Mittenbuhler, K.
CORPORATE SOURCE: Institut fur Immunobiologie der Universitat, Freiburg, D-79104, Germany
SOURCE: International Journal of Immunopharmacology (2000), 22(5), 339-353
CODEN: IJIMDS; ISSN: 0192-0561
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The prepn. of antibodies against the liver toxin microcystin, as described here, is of major importance for its detection and purifn. in food and water, and for a therapeutic approach to neutralize the toxin by passive immunization. Microcystin-LR (MLR) and microcystin-RR (MRR) were purified from cyanobacterial cell materials by extn., Sephadex LH-20-, ODS silica gel-, ionic exchange and RP-HPLC-chromatog. To reduce the toxicity for parenteral administration, microcystins were coupled by the carbodiimide method to poly-L-lysine (PLL50,000). Mice and rabbits were immunized with the conjugates in the presence of two lipopeptide immunoadjuvants (P3CSK4 and P3CS-Th). High MLR-specific antibody levels were obsd. after parenteral coadministration of antigen and lipopeptides, whereas no anti-MLR antibodies were obtained with free microcystin or the microcystin-PLL50,000-conjugate in the absence of lipopeptide. In oral immunization, coadministration of antigen and adjuvants resulted in an accelerated development of anti MLR-specific antibodies and high antibody levels. Using the antisera, the authors could detect different microcystins and nodularin down to a concn. range of 10-50 ng/mL by a competitive inhibition ELISA; detection of microcystins in crude cell prepns. was also possible. Furthermore, microcystins from different sources could be detected and discriminated from cyclic cyanopeptolines.

IT **112208-00-1 202123-06-6 273723-06-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(as adjuvant in prepn. of antibodies to microcystins)

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:753094 HCAPLUS
DOCUMENT NUMBER: 131:346566
TITLE: Use of lipopeptides or lipoproteins for wound treatment
INVENTOR(S): Muehlradt, Peter; Deiters, Ursula
PATENT ASSIGNEE(S): Gesellschaft fuer Biotechnologische Forschung m.b.H. (GBF), Germany
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9959610	A2	19991125	WO 1999-EP3436	19990519
WO 9959610	A3	20000120		
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19822820	A1	19991125	DE 1998-19822820	19980520
CA 2328418	AA	19991125	CA 1999-2328418	19990519
AU 9942643	A1	19991206	AU 1999-42643	19990519
AU 756107	B2	20030102		

EP 1077717 A2 20010228 EP 1999-952073 19990519
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
JP 2002515446 T2 20020528 JP 2000-549274 19990519
PRIORITY APPLN. INFO.: DE 1998-19822820 A 19980520
WO 1999-EP3436 W 19990519
OTHER SOURCE(S): MARPAT 131:346566

AB A Mycoplasma lipopeptide or lipoprotein which on the N-terminus has a dihydroxypropylcysteine group with 2 possibly long-chain fatty acids linked by esterlike bonds is useful for treatment of wounds in humans or other animals. These lipopeptides and lipoproteins and their synthetic analogs stimulate the release of cytokines and prostaglandins by macrophages and induce high titers of chemokines in macrophages. The lipopeptides may be incorporated into liposomes or attached to a biodegradable carrier. Thus, synthetic R-MALP-2 [S-[2,3-bispalmitoyloxy-(2R)-propyl]cysteinyl-GNNDESNISFKEK] was incorporated into phospholipid-cholesterol liposomes which were resuspended in NaCl and injected i.p. into mice. The injection induced a marked migration of granulocytes and other leukocytes into the peritoneum. Intracutaneous injection of R-MALP-2 induced aggregation of leukocytes and formation of new tissue and blood vessels.

IT **219986-22-8 250718-44-6 250718-45-7**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(use of lipopeptides or lipoproteins for wound treatment)

L39 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:591797 HCAPLUS
DOCUMENT NUMBER: 131:317476
TITLE: Alteration of the lateral organization of the plasma membrane of Chinese hamster ovary cells by synthetic lipopeptide, Pam3Cys-Ser-Lys4
AUTHOR(S): Vergne, Isabelle; Cezanne, Laurence
CORPORATE SOURCE: Institut de Pharmacologie et de Biochimie Structurale du CNRS, Toulouse, 31062, Fr.
SOURCE: European Journal of Biochemistry (1999), 264(2), 369-373
CODEN: EJBCAI; ISSN: 0014-2956
PUBLISHER: Blackwell Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The cationic lipohexapeptide (S)-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-N-palmitoyl-(R)-Cys-(S)-Ser-(S)-Lys4-OH, trihydrochloride (Pam3Cys-Ser-Lys4) is a synthetic analog of the triacylated N-terminal part of bacterial lipoproteins. In this study the authors addressed the question of whether Pam3Cys-Ser-Lys4 could modify the organization of the plasma membrane of Chinese hamster ovary cells. 1-Acyl-2-[6-(7-nitro-2-1,3-benzoxadiazol-4-yl)amino]caproyl-sn-glycero-3-phosphocholine (C6-NBD-PC) diffusion was followed by fluorescence recovery after photobleaching expts. carried out on the plasma membrane of Chinese hamster ovary cells. Incubation of cells in the presence of Pam3Cys-Ser-Lys4 induced an increase in the lateral diffusion coeff. and in the immobile fraction of C6-NBD-PC probes. Various control expts. have shown that the increase in the immobile fraction was not due to probe internalization induced by Pam3Cys-Ser-Lys4. Back-exchange expts. showed that a good correlation exists between the fractions of immobilized probes and nonextractable probes in the plasma membrane of Chinese hamster ovary cells. A useful way to analyze the origin of probe immobilization (micrometer-sized domains or aggregated patches of proteins) is to carry out fluorescence recovery after photobleaching expts. at variable observation radii. This type of expt., carried out on the plasma membrane of Chinese hamster ovary cells incubated with Pam3Cys-Ser-Lys4, confirmed that the lipopeptide induced

the aggregation of proteins of Chinese hamster ovary plasma membrane. Lipids which were trapped inside these aggregates were thus prevented from diffusing at long range in the plasma membrane plane and behave as an immobile fraction.

IT **133004-65-6**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(alteration of lateral organization of plasma membrane of Chinese hamster ovary cells by synthetic lipopeptide Pam3Cys-Ser-Lys4)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:25025 HCAPLUS
DOCUMENT NUMBER: 130:195644
TITLE: Induction of pro- and anti-inflammatory cytokines by Borrelia burgdorferi lipoproteins in monocytes is mediated by CD14
AUTHOR(S): Giambartolomei, Guillermo H.; Dennis, Vida A.; Lasater, Barbara L.; Philipp, Mario T.
CORPORATE SOURCE: Department of Parasitology, Tulane Regional Primate Research Center, Tulane University Medical Center, Covington, LA, 70433, USA
SOURCE: Infection and Immunity (1999), 67(1), 140-147
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The authors previously showed that heat-killed B. burgdorferi spirochetes and lipidated outer surface protein A (L-OspA) stimulated the in vitro prodn. of interleukin-10 (IL-10) in peripheral blood mononuclear cells (PBMC) from uninfected humans and rhesus monkeys (G. Giambartolomei et al., 1998). Here the authors demonstrate that uninfected human peripheral blood monocytes, but not B or T cells, are the cells that transcribe the IL-10 cytokine gene in response to heat-killed B. burgdorferi. B. burgdorferi similarly induced an upregulation of the IL-1.beta. and IL-6 cytokine genes in monocytes and the prodn. of IL-10 and IL-6 in culture supernatants of the human monocytic cell line THP-1. Purified L-OspA [but not unlipidated OspA (U-OspA) or U-OspC] also stimulated the prodn. of both cytokines in THP-1 cells in a dose-dependent fashion, suggesting that acylation of the OspA protein mol. is required for the prodn. of both anti- and pro-inflammatory cytokines in naive monocytes. A lipohexapeptide that contained the tripalmitoyl-modified cysteine motif (Pam3 Cys-Hex) of B. burgdorferi lipoproteins but with an arbitrary peptide sequence had the same effect. Monoclonal antibodies (MAbs) MY4 and 60bca, both of which bind to CD14 and are known to block lipopolysaccharide (LPS)-mediated cytokine prodn., were able to block L-OspA-mediated IL-10 and IL-6 cytokine prodn. In contrast, MAb 26ic, which also binds to CD14 but does not block LPS function, failed to inhibit L-OspA-mediated cytokine prodn. Thus, activation of monocytes and prodn. of both anti- and pro-inflammatory cytokines induced by lipoproteins proceeds via the CD14 receptor. LPS binding protein was not required for OspA-induced cytokine prodn. Pro- and anti-inflammatory cytokines induced by B. burgdorferi lipoproteins in PBMC are thus produced by monocytes and lipoprotein and LPS signaling pathways share at least the initial signaling event that involves the CD14 receptor.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(pro- and anti-inflammatory cytokines induction by Borrelia burgdorferi lipoproteins in monocytes is mediated by CD14)

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:800553 HCAPLUS
DOCUMENT NUMBER: 130:138264
TITLE: Activation of nuclear factor-.kappa.B in macrophages by mycoplasmal lipopeptides
AUTHOR(S): Sacht, Gudrun; Maerten, Angela; Deiters, Ursula; Suessmuth, Roderich; Jung, Guenther; Wingender, Edgar; Muehlradt, Peter F.
CORPORATE SOURCE: Immunobiology Research Group, Gesellschaft Biotechnologische Forschung m.b.H., Braunschweig, D-38124, Germany
SOURCE: European Journal of Immunology (1998), 28(12), 4207-4212
CODEN: EJIMAF; ISSN: 0014-2980
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mycoplasmas are potent macrophage stimulators. The active principle are lipopeptides or lipoproteins with a characteristic N-terminal S-[dihydroxypropyl]-cysteinyl group bearing 2 ester-bound fatty acids and lacking the amide-bound one common to other bacterial lipoproteins. Using synthetic analogs of mycoplasmal lipopeptides, the authors investigated activation of the transcription factor NF-.kappa.B in the C3H/HeJ mouse-derived DMBM-3 cell line. The lipopeptides activated NF-.kappa.B at below nanomolar concns. Activation in the murine system occurred distinctly earlier than TNF-.alpha. liberation, excluding autocrine stimulation by TNF-.alpha.. As detd. from a supershift expt., the active NF-.kappa.B complex consisted of the heterodimer p50/p65(RelA). The relevance of these findings for the inflammatory response to mycoplasmas and for mycoplasma-mediated effects on HIV-infected macrophages is discussed.
IT 219986-22-8 219986-24-0
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(activation of nuclear factor-.kappa.B in macrophages by mycoplasmal lipopeptides and their effects on HIV-infected macrophages)
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 24 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:371105 HCAPLUS
DOCUMENT NUMBER: 129:156634
TITLE: Synthetic lipopeptides of bacterial origin as novel and efficient adjuvants for parenteral and oral immunization
AUTHOR(S): Bessler, W. G.; Baier, W.; Huber, M.; Hoffmann, P.; Heinevetter, L.; Wiesmuller, K. -H.; Jung, G.
CORPORATE SOURCE: Germany
SOURCE: Symposium in Immunology VII: Vaccination (1998), 59-69. Editor(s): Eibl, Martha M. Springer: Berlin, Germany.
CODEN: 66EYA6
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Lipopeptides such as P3CSK4 are described as adjuvants for oral administration which showed remarkable immunogenicity. They could be useful for the further optimization of oral immunization procedures and for the development of novel synthetic vaccines. The synthetically prepd. lipopeptides constitute potent immunogenicity when administered as a mixt. with antigens. The response against synthetically prepd. melitin or its fragments was further enhanced by the addnl. introduction of a T helper cell epitope into the lipopeptide-hapten conjugate. When added to

Enterobacteriaceae vaccines, lipopeptides enhanced protection against lethal Salmonella infections in mice. Also, lipopeptide-based vaccines against foot and mouth disease protected guinea pigs against lethal virus infections. The conjugates of lipopeptides with viral oligopeptides induced peptide-specific cytotoxic T lymphocytes in vivo. Lipopeptides are also potent stimulants for B lymphocytes and for monocytes/macrophages. An immune-enhancing effect of the lipopeptides was also obsd. when the antigens were administered by the oral route.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(synthetic lipopeptides of bacterial origin as novel and efficient adjuvants for parenteral and oral immunization used with vaccines)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:260985 HCAPLUS
DOCUMENT NUMBER: 129:72018
TITLE: The lipopeptide P3CSK4 constitutes an adjuvant in parenteral and oral immunization
AUTHOR(S): Baier, W.; Heinevetter, L.; Huber, M.; Wiesmuller, K.-H.; Jung, G.; Bessler, W. G.
CORPORATE SOURCE: Institut fur Immunbiologie, Universitat Freiburg, Germany
SOURCE: Vaccine Research (1997), 6(3), 127-140
CODEN: VAREES; ISSN: 1056-7909
PUBLISHER: Mary Ann Liebert, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lipopeptides of bacterial origin constitute potent immunoadjuvants in mice, rabbits, and other species. Here we demonstrate that lipopeptides constitute adjuvants not only in parenteral but also in oral immunizations. Serum Ig, IgG, and IgA antibody responses against the wheat storage protein gliadin or against the bee venom constituent melittin could be markedly enhanced by the lipopeptide P3CSK4 using both immunization methods. In parenteral immunization, lipopeptide adjuvants were comparable to or in some cases superior for Freund's adjuvant without the side effects of this additive, and induced a long-lasting humoral immune response. The adjuvant effect was also demonstrated for Ig in supernatants of cell cultures prepd. from spleens, Peyer's patches, and lungs of immunized mice. Thus, we were able to confirm the adjuvant properties of the lipopeptide P3CSK4 in parenteral immunization and to demonstrate the adjuvant effects of the lipopeptide in oral immunizations. Our findings are of importance for the improvement of animal immunization and might lead to better and more effective vaccines also in humans.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(lipopeptide P3CSK4 constitutes an adjuvant in parenteral and oral immunization)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:807851 HCAPLUS
DOCUMENT NUMBER: 128:114016
TITLE: Adjuvant lipopeptide interaction with model membranes
AUTHOR(S): Gonzalez-Christen, Judith; Vergne, Isabelle; Sussmuth, Roderich; Sidobre, Stephane; Prats, Michel; Tocanne, Jean Francois; Laneelle, Gilbert

CORPORATE SOURCE: 118 route de Narbonne, Institut de Pharmacologie et de Biologie Structurale du CNRS and Universite Paul Sabatier, F-31062 Toulouse, Cedex, 118, Fr.
SOURCE: Biochimica et Biophysica Acta (1998), 1368(1), 97-107
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The cationic lipohexapeptide Pam3Cys-Ser-(Lys)4 is a synthetic model for the triacylated N-terminal part of bacterial lipoproteins, and it is used as an adjuvant and macrophage activator. The amphiphilic lipopeptide was injected below a phosphatidylserine monolayer at the air-water interface. It interacted with the interface, as seen by a decrease in the surface potential (.DELTA.V), and it was inserted in the monolayer, until surface charge neutralization was reached, as seen by the parallel increases of .DELTA.V and of the surface pressure. No insertion occurred above 29 mN/m. The interaction kinetics was sensitive to ionic strength and to the nature of acidic phospholipids and of their acyl chains, but the final equil. was independent of these factors. Addn. of the lipopeptide to large unilamellar vesicles (LUVs) induced their aggregation, and an exchange of lipids between fluorophor-labeled and non-labeled LUVs. However, no fusion was obsd., just as reported for polylysine. The lipopeptide strongly inhibited calcium-induced fusion of PS LUVs, in contrast to the published effect of polylysine. This was probably due to inhibition of calcium fixation on liposomes, since it was obsd. that the lipopeptide efficiently displaced 45Ca2+ from a PS monolayer. In addn., a phospholipid segregation was obsd. in SUVs for a few ten micromolar of the lipopeptide.

IT **112208-00-1**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(adjuvant lipopeptide interaction with model membranes)

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

(ii)

L39 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:147340 HCAPLUS
DOCUMENT NUMBER: 126:198410
TITLE: Cytotoxic T cell induction with ratchet peptide libraries
AUTHOR(S): Kuebler, Peter J.; Nixon, Douglas F.
CORPORATE SOURCE: United Biomedical, Inc., Hauppauge, NY, 11788, USA
SOURCE: Vaccine (1996), 14(17/18), 1664-1670
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Immunization with synthetic peptides are used to induce cytotoxic T cell (CTL) responses in vivo. However, CTL peptide vaccines require the use of multiple peptides to overcome genetic diversity assocd. with MHC restriction, and prior epitope identification from the chosen protein template. The authors describe here a method whereby all nonamer sequences from a longer template can be synthesized simultaneously in a ratchet peptide library (RPL) covering all potential epitopes within a protein. The authors synthesized an RPL based on a template sequence from the Plasmodium berghei circumsporozoite (CS) protein (CSRPL). Using a lipopeptide formulation the authors immunized mice i.p. with the CSRPL and elicited CS specific CTL, which recognized the CS252-260 H-2Kd restricted CTL epitope.

IT **132957-09-6D**, peptide conjugates
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(cytotoxic T-cell induction with ratchet peptide libraries)

L39 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:114898 HCAPLUS
DOCUMENT NUMBER: 126:170144
TITLE: Synthetic peptides entrapped in microparticles can elicit cytotoxic T cell activity
AUTHOR(S): Nixon, Douglas F.; Hioe, Catarina; Chen, Pei-De; Bian, Zuning; Kuebler, Peter; Li, Ming-Lie; Qiu, Howard; Li, Xuan-Mao; Singh, Manmohan; et al.
CORPORATE SOURCE: Aaron Diamond AIDS Research Center, New York, NY, 10016, USA
SOURCE: Vaccine (1996), 14(16), 1523-1530
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Peptides from Plasmodium berghei circumsporozoite protein (CS) and influenza A virus nucleoprotein (NP) were entrapped in microparticles prepd. from poly (lactide-co-glycolide) polymers, and the microparticles were administered parenterally to mice. After immunization with single or multiple doses, splenocytes were tested for a cytotoxic T cell (CTL) response and high levels of CTL activity were detected. The CTL induced were CD8+, MHC class I restricted, and could recognize virus infected cells. Peptide entrapped in microparticles of mean size <500nm were better inducers of CTL than larger microparticles (mean>2 .mu.m and above). Microparticles could also be used to deliver lipid modified peptides (lipopeptides) and elicited higher levels of cytolytic activity than either free peptide in microparticles or lipopeptide alone. Microparticles provide a novel way of inducing a CTL response using synthetic peptides.
IT **132957-09-6P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(synthetic peptides entrapped in microparticles can elicit cytotoxic T cell activity)

L39 ANSWER 29 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:730670 HCAPLUS
DOCUMENT NUMBER: 126:46246
TITLE: Identification of HTLV-1-specific CTL directed against synthetic and naturally processed peptides in HLA-B*3501 transgenic mice
AUTHOR(S): Schoenbach, Christian; Nokihara, Kiyoshi; Bangham, Charles; Kariyone, Al; Karaki, Sachiko; Shida, Hisatoshi; Takatsu, Kiyoshi; Egawa, Kohji; Wesmueller, Karl-Heinz; Takiguchi, Masafumi
CORPORATE SOURCE: Department Tumor Biology, Institute Medical Science, Univ. Tokyo, Tokyo, 108, Japan
SOURCE: Virology (1996), 226(1), 102-112
CODEN: VIRLAX; ISSN: 0042-6822
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Previous studies of CTL responses to influenza peptides in HLA single transgenic mice resulted in the identification of at most one immunodominant epitope. Since HLA-B*3501 is known to present multiple HIV-1-specific T cell epitopes we tested the cellular immune response of HLA-B*3501 transgenic mice to synthetic HTLV-1 peptides mixed with the lipohexapeptide N-palmitoyl-S-[2,3-bis(palmitoyloxyl)propyl]cysteinyl-seryl-lysyl-lysyl-lysyl-lysine, which is a biocompatible, Th-epitope-independent adjuvant. Eleven of 37 tested HLA-B*3501 binding peptides mounted a CTL response after three in vitro stimulations. The HLA-B*3501 affinity of peptides correlated with their ability to induce

CTL in HLA-B*3501 transgenic mice. Seven peptides derived from env-gp46 (VPSPSSTPLL, VPSSSSTPLL, VPSSSSTPL, YPSLALAPH, and YPSLALAPA), pol (QAFPQCTIL), gag-p19 (YPGRIVNEIL), and tax (GAFLTNVPY) proteins induced peptide-specific CTL. Bulk CTL generated by four peptides derived from env-gp46 (SPPSTPLLY, VPSPSSTPLLY, and VPSPSSTPLL) and pol (QAFPQCTILQY) killed peptide-pulsed and recombinant vaccinia-infected target cells. The latter peptides therefore present T-cell epitopes and are vaccine candidates for our transgenic mouse model.

IT **112208-00-1**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(adjuvant; identification of HTLV-1-specific CTL directed against synthetic and naturally processed peptides in HLA-B*3501 transgenic mice)

L39 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:717270 HCAPLUS
DOCUMENT NUMBER: 126:43457
TITLE: Evidence for common mechanisms in the transcriptional control of type II nitric oxide synthase in isolated hepatocytes. Requirement of NF-.kappa.B activation after stimulation with bacterial cell wall products and phorbol esters
AUTHOR(S): Diaz-Guerra, Maria J. M.; Velasco, Marta; Martin-Sanz, Paloma; Bosca, Lisardo
CORPORATE SOURCE: Facultad Farmacia, Univ. Complutense, Madrid, 28040, Spain
SOURCE: Journal of Biological Chemistry (1996), 271(47), 30114-30120
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Incubation of primary cultures of rat hepatocytes with lipopolysaccharide (LPS), S-[2,3-bis(palmitoyloxy)-(2-R,S)-propyl]-N-palmitoyl-(R)-Cys-Ser-Lys4 (TPP), a synthetic lipopeptide present in bacterial cell wall lipoproteins, or with phorbol 12,13-dibutyrate (PDBu) induced an increase in nitric oxide synthesis through the expression of type II nitric oxide synthase (iNOS). Transfection of hepatocytes with a HindII fragment corresponding to the promoter region of the murine iNOS gene (from nucleotide -1588 to +165) resulted in the expression of the reporter gene when cells were stimulated with these factors. The transcription factors activated by these stimuli involved an increase in the nuclear content of proteins that bind to .kappa.B, AP-1, GAS, and SIE sequences. Inhibition of NF-.kappa.B activation with pyrrolidine dithiocarbamate eliminated the expression of iNOS in hepatocytes stimulated with LPS, TPP, or PDBu. In addn. to this, transfection of hepatocytes with promoter mutants in which a sequential 2-base pair change within the .kappa.B sites was introduced (position -971 to -961 and -85 to -75, resp.), resulted in approx. 17 and 35%, resp., of the activity of the naive promoter. Simultaneous mutation of both .kappa.B sites abolished the promoter activity. Anal. of the proteins involved in .kappa.B binding showed the presence of p50/p65 dimers in the nuclei of activated cells at the time that an important decrease of I.kappa.B-.alpha. was obsd. soon after cell stimulation with LPS, TPP, or PDBu. However, only LPS was able to decrease the amt. of I.kappa.B-.beta.. These results suggest that LPS, TPP, and PDBu, although activating different signal transduction pathways, use a common mechanism mediating iNOS expression in cultured hepatocytes.

IT **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(gene stimulation by; transcriptional control of type II nitric oxide

synthase in hepatocytes: requirement of NF-.kappa.B activation after stimulation with bacterial cell wall products and phorbol esters)

L39 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:639679 HCAPLUS
DOCUMENT NUMBER: 125:295931
TITLE: Biotin, consensus sequence, lipoamino acid and the antigenic Dnp-group combine to a synthetic substrate for enzymes involved in lipoprotein biosynthesis
AUTHOR(S): Feiertag, S.; Wiesmueller, K. -H.; Metzger, J. W.; Schnerring, K.; Goetz, F.; Jung, G.
CORPORATE SOURCE: Naturwissenschaftliches und Medizinisches Institut, Universitat Tubingen, Reutlingen, D-72762, Germany
SOURCE: Peptides 1994, Proceedings of the European Peptide Symposium, 23rd, Braga, Port., Sept. 4-10, 1994 (1995), Meeting Date 1994, 895-896. Editor(s): Maia, Hernani L. S. ESCOM: Leiden, Neth.
CODEN: 63MBAO
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Bacterial lipoproteins are synthesized as precursors with N-terminal signal sequences that are removed by enzymic cleavage during the multistep-processing of lipoproteins. The design and synthesis of synthetic substrates for measuring lipoprotein processing enzyme activity in an ELISA is reported. These substrates have the following features: (1) a biotinylated N-terminus to bind tightly on streptavidin-coated microtiter plates, (2) the consensus signal peptide sequence ILLAG, (3) N.epsilon.-2,4-dinitrophenyl-L-lysine for recognition by anti-Dnp antibodies in the ELISA, and (4) PEG or Ser-(Lys)4 to mediate water soly. Trypsin activity could be detected using one of the synthetic peptide substrates. This approach could provide a highly sensitive and exptl. simple method for the detection of enzymic activity.
IT **182956-94-1P 182956-95-2P 182956-96-3P**
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(as peptide substrate; combination of biotin, consensus signal peptide sequence, lipoamino acid, and antigenic Dnp-group in synthetic substrate for lipoprotein-processing proteinases)

L39 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:438749 HCAPLUS
DOCUMENT NUMBER: 125:112255
TITLE: Comparison of adjuvant formulations for cytotoxic T cell induction using synthetic peptides
AUTHOR(S): Hioe, Catarina E.; Qiu, Howard; Chend, Pei-De; Bian, Zuning; Li, Ming-Lie; Li, Joseph; Singh, Manmohan; Kuebler, Peter; McGee, Paul; et al.
CORPORATE SOURCE: Department Pathology, New York University, New York, NY, 10010, USA
SOURCE: Vaccine (1996), 14(5), 412-418
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have investigated the capacity of synthetic peptides delivered in different adjuvant formulations to induce cytotoxic T lymphocyte (CTL) responses to a class I H-2Kd-restricted Plasmodium berghei circumsporozoite epitope, CS 252-260. Using three immunogen formulations: soybean emulsion; Montanide ISA720; and lipopeptide (P3-CS), we first evaluated the effects of immunization routes on CTL induction. No CTL response was induced in mice immunized s.c. or i.p. with CS peptide

formulated in soybean emulsion. In contrast, immunization with lipopeptide P3-CS either s.c. or i.p. effectively primed for CTL. Interestingly, CS peptide emulsified in Montanide ISA720 induced a CTL response only when delivered s.c. and not i.p., indicating the crit. influence of immunization routes on CTL induction. We then compared the effectiveness of eight adjuvant formulations to induce CTL response following a single s.c. immunization. Notably, lipopeptide P3-CS and CS peptide admixed with P3 or POE lipid mols. stimulated a vigorous CTL response. However, only mice immunized with P3-CS and CS peptide admixed with P3 mol. generated long-lived CTL which persisted in vivo for 5 mo. Thus, based on a simultaneous comparison of the different adjuvant formulations, we demonstrated that the conjugated and unconjugated P3 lipopeptides were the most effective immunogens for eliciting primary and memory CTL in mice.

IT **132957-09-6 178951-63-8**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(comparison of adjuvant formulations for cytotoxic T cell induction using Plasmodium berghei circumsporozoite peptide)

L39 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:141361 HCAPLUS
DOCUMENT NUMBER: 124:344098
TITLE: Synthesis of a new template with a built-in adjuvant and its use in constructing peptide vaccine candidates through polyoxime chemistry
AUTHOR(S): Zeng, Weiguang; Jackson, David C.; Rose, Keith
CORPORATE SOURCE: Biochimie Medicale, CMU, Geneva, CH-1211, Switz.
SOURCE: Journal of Peptide Science (1996), 2(1), 66-72
CODEN: JPSIEI; ISSN: 1075-2617
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic lipopeptides are showing promise as vaccine candidates, but until now it has been very difficult to prep. them in homogeneous form. The authors describe the synthesis and characterization of a new water-sol., four-branched template with N-palmitoyl-S-[2,3-bis(palmitoyloxy)propyl]cysteine (Pam3Cys) as a built-in lipophilic adjuvant. Through the use of oxime chem., four copies of an unprotected influenza virus peptide were attached the product (13 kDa) characterized by reversed-phase HPLC and electrospray ionization mass spectrometry. Several other such constructions were made using the new template and different peptides. Thus, the authors seem to have a general method for making synthetic lipopeptides in homogeneous form.

IT **175789-69-2P 175789-70-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of a branched peptide template with a built-in adjuvant and its use in constructing peptide vaccine candidates through polyoxime chem.)

IT **176023-72-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of a branched peptide template with a built-in adjuvant and its use in constructing peptide vaccine candidates through polyoxime chem.)

L39 ANSWER 34 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:505737 HCAPLUS
DOCUMENT NUMBER: 123:78171
TITLE: Synthetic lipopeptides activate nucleoside diphosphate kinase in HL-60 membranes
AUTHOR(S): Klinker, Jan F.; Seifert, Roland
CORPORATE SOURCE: Inst. Pharmakologie, Freie Univ. Berlin, Berlin, D-14195, Germany
SOURCE: Biochemical and Biophysical Research Communications

(1995), 209(2), 575-81
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have put forward the hypothesis that lipopeptides (LPs) activate GTP hydrolysis by Gi-proteins in HL-60 membranes via activation of nucleoside diphosphate kinase (NDPK) as does mastoparan (MP). Therefore, we compared the effects of the LPs and MP on NDPK and GTPase activation in HL-60 membranes. In native membranes, LPs effectively activated GTP hydrolysis and moderately activated GTP formation. In solubilized membranes, the effect of LPs on GTP formation was enhanced whereas the one on GTP hydrolysis was abolished. The NDPK substrate GDP enhanced the relative stimulatory effect of LPs and MP on GTP hydrolysis in HL-60 membranes in the absence of a NTP-regenerating system. A NTP-regenerating system abrogated the potentiating effect on GDP on MP action, whereas the effect of LP-stimulated GTP-hydrolysis was enhanced. Our data show that LPs activate NDPK in HL-60 membranes and that this activation may account for their G-protein-stimulatory activity. Membrane solubilization may impair the transfer of GTP from NDPK to Gi-protein .alpha.-subunits and subsequent GTP hydrolysis, whereas GTP formation remains intact, augmenting the effect of LPs on the kinase. Finally, LP- and MP-induced NDPK activation may involve different pools of GDP.

IT **139470-63-6**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(lipopeptides activation of nucleoside diphosphate kinase in HL-60 membranes and role in signal transduction)

L39 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:444465 HCAPLUS
DOCUMENT NUMBER: 122:212059
TITLE: Bacterial lipopeptides induce nitric oxide synthase and promote apoptosis through nitric oxide-independent pathways in rat macrophages
AUTHOR(S): Terenzi, Fulvia; Diaz-Guerra, Maria J. M.; Casado, Marta; Hortelano, Sonsoles; Leoni, Silvia; Bosca, Lisardo
CORPORATE SOURCE: Fac. Farm., Univ. Complutense, Madrid, 28040, Spain
SOURCE: Journal of Biological Chemistry (1995), 270(11), 6017-21
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Stimulation of resident peritoneal macrophages with S-[2,3-bis(palmitoyloxy)-(2R,2S)-propyl]-N-palmitoyl-(R)-CysSerLys4 or S-[2,3-bis(palmitoyloxy)-(2R,2S)-propyl]-N-palmitoyl-(R)-CysAlaLys4 synthetic bacterial lipopeptides, promoted the expression of the inducible form of nitric oxide synthase, exhibiting a temporal pattern of nitric oxide release that was delayed with respect to the induction elicited by bacterial lipopolysaccharide. Treatment of macrophages with genistein blocked the nitric oxide synthesis triggered by the lipopeptides or lipopolysaccharide. Simultaneous incubation with lipopolysaccharide and lipopeptide resulted in an antagonistic effect on nitric oxide synthase mRNA levels and on nitrite plus nitrate release to the medium. Triggering with bacterial lipopeptides induced macrophage programmed cell death. In macrophages activated with lipopeptide, apoptosis was obsd. even in the absence of nitric oxide synthesis, therefore indicating the existence of alternative pathways in the control of programmed cell death in these cells.

IT **112208-00-1 161993-08-4**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(bacterial lipopeptides induce nitric oxide synthase and promote apoptosis via nitric oxide-independent pathways in macrophages)

L39 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:198417 HCAPLUS
DOCUMENT NUMBER: 122:188161
TITLE: Optimized SPPS of large peptides utilizing Fmoc-amino acids
AUTHOR(S): Surovoy, A.; Metzger, J.W.; Jung, G.
CORPORATE SOURCE: Shemyakin Institute of Bioorganic Chemistry, Moscow, Russia
SOURCE: Chemistry of Peptides and Proteins (1993), 5/6(Pt. A), 9-24
CODEN: CHPPER; ISSN: 0723-6271
PUBLISHER: Verlag Mainz, Wissenschaftsverlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The author's strategy for the solid-phase prepn. of several large peptides (MW > 5000) using 9-fluorenylmethoxycarbonyl (Fmoc) amino acids, fragment condensation approaches, and new deprotection mixts.
IT **161220-71-9DP**, protected
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(optimized solid-phase prepn. of large peptides using fluorenylmethoxycarbonylamino acids and fragment condensations)
IT **161515-27-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(optimized solid-phase prepn. of large peptides using fluorenylmethoxycarbonylamino acids and fragment condensations)

L39 ANSWER 37 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:531290 HCAPLUS
DOCUMENT NUMBER: 121:131290
TITLE: Synthetic lipopeptide Pam3CysSer(Lys)4 is an effective activator of human platelets
AUTHOR(S): Berg, Michaela; Offermanns, Stefan; Seifert, Roland; Schultz, Guenter
CORPORATE SOURCE: Institut fuer Pharmakologie, Freie Universitaet Berlin, Berlin, 14195, Germany
SOURCE: American Journal of Physiology (1994), 266(6, Pt. 1), C1684-C1691
CODEN: AJPHAP; ISSN: 0002-9513
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lipopeptide analogs of the N-terminus of bacterial lipoprotein are known to induce activation of macrophages, neutrophils, and lymphocytes. The authors studied the effect of the lipopeptide N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-(R)-cysteinyl-(S)-seryl-(S)-lysyl-(S)-lysyl-(S)-lysyl-(S)-lysine [Pam3CysSer(Lys)4] on several functions of human platelets. Pam3CysSer(Lys)4 led to the aggregation of platelets and induced the secretion of serotonin with an effectiveness similar to thrombin. These cellular effects of Pam3CysSer(Lys)4 were concn. dependent, being half maximal at 2-3 .mu.M and maximal at 10-30 .mu.M. Another lipopeptide also induced platelet aggregation and serotonin secretion but was less potent and less effective than Pam3CysSer(Lys)4. The lipid moiety and the peptide moiety of Pam3CysSer(Lys)4 alone were without any effect. Lipopeptides also stimulated tyrosine phosphorylation of several proteins with mol. masses similar to those found to be tyrosine phosphorylated in response to thrombin, and Pam3CysSer(Lys)4 led to an increase in the cytosolic calcium concn. All studied responses of platelets to lipopeptides were inhibited by the prostacyclin receptor

agonist cicaprost. Taken together, the authors' data show that lipopeptides are effective activators of human platelets and that this activation is susceptible to the action of physiol. platelet inhibitors.

IT **112208-00-1**
RL: BIOL (Biological study)
(as human platelet activator)

L39 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:455886 HCAPLUS
DOCUMENT NUMBER: 121:55886
TITLE: Dendritic conjugates of lipids with multiple peptide antigens for use as adjuvants and in vaccines
INVENTOR(S): Tam, James P.
PATENT ASSIGNEE(S): Rockfeller University, USA
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9322343	A1	19931111	WO 1993-US4179	19930503
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5580563	A	19961203	US 1994-331489	19941228
PRIORITY APPLN. INFO.:			US 1992-877613	19920501
			WO 1993-US4179	19930503

AB A multiple antigenic peptide system with a dendritic core, multiple peptides and a lipophilic anchoring moiety is described. This combination eliminates the need for adjuvants found to be toxic to humans, and facilitates the exponential amplification of the antigenic potential of a vaccine prepd. from it, as noncovalent amplification by a liposome or micellar form is possible. Multiple different antigenic peptides may be attached so that the system may be used to concurrently treat multiple diseases, e.g., AIDS and influenza. Humoral and T-cell epitopes may be present in the same conjugate. The present multiple antigen peptide system is capable of eliciting an immune response when injected into a mammal. Lysyl tripalmitoyl-S-glyceryl cysteine (Lys(P3C)) was conjugated with resin immobilized Fmoc-Ala and the tetrabranching peptide [Fmoc-Lys(Fmoc)]2-Lys-Ser-Ser-Lys(P3C)-Ala immobilized on resin and the B1 epitope of the V3 loop of gp120 of HIV-1 synthesized by Fmoc chem. using Arg(Pmc) and Asn(Trt). The conjugates were incorporated into egg lecithin/cholesterol/stearylamine liposomes and injected into mice and guinea pigs (100 .mu.g protein on days 0 and 14 and 50 .mu.g on days 30 and 45) and the antisera characterized. Antibody titers from animals immunized with the dendritic peptide were .apprx.2-fold higher than those from animals immunized with gp120 with 90% fusion inhibition titers of 4.3-10.times.103.

IT **155382-54-0DP**, resin immobilized **155382-59-5DP**, resin immobilized **155382-60-8DP**, resin immobilized **155412-16-1DP**, resin immobilized **155412-17-2DP**, resin immobilized
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reactions of, in prepn. dendritic lipopeptides for vaccines)

IT **156260-09-2P 156260-10-5P**
RL: PREP (Preparation)
(prepn. of, dendritic lipopeptide for vaccines against HIV-1)

L39 ANSWER 39 OF 54 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:29293 HCAPLUS
DOCUMENT NUMBER: 120:29293
TITLE: Lipopeptides activate Gi-proteins in dibutyryl cyclic AMP-differentiated HL-60 cells
AUTHOR(S): Klinker, Jan F.; Hoer, Ariane; Schwaner, Ingo; Offermanns, Stefan; Wenzel-Seifert, Katharina; Seifert, Roland
CORPORATE SOURCE: Inst. Pharmakol., Freie Univ. Berlin, Berlin, D-14195, Germany
SOURCE: Biochemical Journal (1993), 296(1), 245-51
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic lipopeptides activate superoxide-anion (O2-) formation in human neutrophils in a pertussis-toxin (PTX)-sensitive manner, suggesting the involvement of G-proteins of the Gi family in the signal transduction pathway. The authors compared G-protein activation by lipopeptides and the chemotactic peptide N-formylmethionyl-leucyl-phenylalanine (fMLP) in dibutyryl-cyclic-AMP-differentiated HL-60 cells. The lipopeptide (2S)-2-palmitoylamino-6-palmitoyloxymethyl-7-palmitoyloxyheptanoyl-SK4 (Pam3AhhSK4)and fMLP activated high-affinity GTPase, i.e. the enzymic activity of G-protein .alpha.-subunits, in HL-60 membranes in a time- and protein-dependent manner, but they had no effect on Mg2+-ATPase and Na+/K+-ATPase. Pam3AhhSK4 and fMLP increased Vmax. of GTP hydrolysis. Pam3AhhSK4 activated GTP hydrolysis with half-maximal and maximal effects about 2 .mu.M and 10 .mu.M resp. Other lipopeptides activated GTP hydrolysis as well. Lipopeptides were less effective than fMLP to activate GTPase. In membranes from PTX-treated cells, the stimulatory effects of lipopeptides and fMLP on GTPase were abolished. In N-ethylmaleimide-treated membranes, the relative stimulatory effect of Pam3AhhSK4 on GTP hydrolysis was enhanced, whereas that for fMLP was diminished. FMLP and Pam3AhhSK4 activated GTPase in an over-additive manner in N-ethylmaleimide-treated membranes. Unlike fMLP, Pam3AhhSK4 did not enhance incorporation of GTP azidoanilide into, and cholera-toxin-catalyzed ADP-ribosylation of Gi-protein .alpha.-subunits in, HL-60 membranes and did not induce rises in cytosolic Ca2+ concn. Pam3AhhSK4 and fMLP stimulated phosphatidic acid formation in a PTX-sensitive manner. Pam3AhhSK4 itself did not activate O2- formation, but potentiated the stimulatory effects of fMLP. The authors' data suggest that (i) lipopeptides activate the GTPase of Gi-proteins, (ii) lipopeptides and fMLP activate Gi-proteins differently, (iii) lipopeptides stimulate phospholipase D via Gi-proteins, and (i.v.) phosphatidic acid formation is not sufficient for activation of O2- formation.

IT **139470-63-6 151936-18-4 151936-19-5 151936-20-8**
RL: BIOL (Biological study)
(Gi protein activation by, in human neutrophil, mechanism of)

L39 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:531119 HCAPLUS
DOCUMENT NUMBER: 119:131119
TITLE: Interaction of immunologically-active lipopeptides with membranes
AUTHOR(S): Metzger, J. W.; Sawyer, W. H.; Wille, B.; Biesert, L.; Bessler, W. G.; Jung, G.
CORPORATE SOURCE: Institut fuer Organische Chemie, Universitaet Tuebingen, Tubingen, Germany
SOURCE: Biochimica et Biophysica Acta (1993), 1149(1), 29-39
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthetic tripalmitoyl-S-glycerylcysteinyl (Pam3Cys) peptides are derived from the N-terminal part of bacterial lipoprotein and constitute

polyclonal B-lymphocyte and macrophage activators. In order to elucidate the primary events of leukocyte activation, the authors investigated the biophys. interaction of lipopeptides contg. spin labels or fluorescent markers with phosphatidylcholine vesicles or immune cells. Utilizing fluorescence microscopy and FACS anal., the authors found, that the surface of cells, after incubation with a fluorescein-labeled lipopeptide, was highly fluorescent. In addn., capping and patching was obsd. Furthermore, fluorescence quenching expts. and ESR studies using vesicles incubated with lipopeptides suggested, that the peptide moiety and other more polar mols. linked to the lipo-amino acid are exposed to the hydrophilic compartment. These results show that in lipopeptide conjugates, the Pam3Cys moiety acts as an efficient membrane anchor for mols. covalently coupled to it. The sequestering of the fatty-acid chains of the lipopeptide within the membrane is an early step of interaction, which might induce the uptake of the lipopeptide into the cell and the stimulation of immunocompetent cells.

IT **112208-00-1DP**, reaction product with isothiocyanofluorescein
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and interaction with cell membrane of)

IT **112208-00-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with fluorescein isothiocyanate)

L39 ANSWER 41 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:255304 HCAPLUS
DOCUMENT NUMBER: 118:255304
TITLE: Enhanced immunogenicity of an epitope of foot-and-mouth disease virus protein PV1 C-terminally linked to a lipopeptide adjuvant
AUTHOR(S): Beck, Werner; Metzger, Jorg W.; Wiesmueller, Karl Heinz; Surovoy, Andrej; Haas, Bernd; Jung, Guenther
CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400, Germany
SOURCE: Innovation Perspect. Solid Phase Synth. Collect. Pap., Int. Symp., 2nd (1992), Meeting Date 1991, 343-7. Editor(s): Epton, Roger. Intercept: Andover, UK. CODEN: 58OLAK
DOCUMENT TYPE: Conference
LANGUAGE: English
AB A report from a symposium. Conjugates composed of the immunostimulating lipoamino acid N-palmitoyl-S-[2,3-bis(palimtoyloxy)propyl]cysteine (P3C) and partial sequences of foot-and-mouth disease virus (strain O1K) protein VP1 135-154 and (VP1 136-156)-Aca-Aca-(VP1 197-213) (Aca = .epsilon.-aminocaproic acid) were used for immunization of guinea pigs. The novel building block P3C-Lys(Fmoc)-OH (Fmoc = 9-fluorenylmethoxycarbonyl), which allows the attachment of P3C to the C-terminus of an epitope, was synthesized and coupled to H-Ala-(Wang)-resin. The epitope VP1 135-154 was built up on the deprotected lysine .epsilon.-amino group of the resin-bound lipotripeptide. In conjugates with amino terminal P3C, the lipoamino acid was sepd. from the epitope by polar spacer amino acids. Virus neutralizing antibodies were obtained with all conjugates. The lipopeptide with P3C located at the C-terminus induced the highest titer three weeks after immunization.

IT **120665-08-9P 132957-09-6P 147414-02-6P 147414-36-6P 147710-63-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and immunogenicity of, towards foot-and-mouth disease virus)

L39 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:172215 HCAPLUS
DOCUMENT NUMBER: 116:172215
TITLE: Lipopeptides are effective stimulators of tyrosine

phosphorylation in human myeloid cells
AUTHOR(S): Offermanns, Stefan; Seifert, Roland; Metzger, Joerg W.; Jung, Guenther; Lieberknecht, Albrecht; Schmidt, Ulrich; Schultz, Guenter
CORPORATE SOURCE: Inst. Pharmakol., Freie Univ. Berlin, Berlin, D-1000/33, Germany
SOURCE: Biochemical Journal (1992), 282(2), 551-7
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Synthetic lipopeptide analogs of the N-terminus of bacterial lipoprotein are effective activators of macrophages, neutrophils, and lymphocytes. The effect was studied of the lipopeptide N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-(R)-cysteinyl-(S)-seryl-(S)-lysyl-(S)-lysyl-(S)-lysine [Pam3Cys-Ser-(Lys)1] on tyrosine phosphorylation in dibutyryl-cyclic-AMP-differentiated HL-60 cells, using anti-phosphotyrosine antibodies. Pam3Cys-Ser-(Lys)1 concn.-dependently stimulated tyrosine phosphorylation of 100/110 kDa and 60 kDa proteins and, to a lesser extent, of 55 kDa and 70/75 kDa proteins. Half-maximal and maximal effects were obsd. at concns. of 1-6 and 5-50 .mu.g/mL resp. The lipopeptide-induced increase in phosphorylation was rapid and transient, with a peak response after 30-60 s. The lipopeptide (2S)-2-palmitoylamino-6-palmitoyloxymethyl-7-palmitoyloxyheptanoyl-Ser-(Lys)4 [Pam3Ahh-Ser-(Lys)4] was as potent as Pam3Cys-Ser(Lys)4, whereas (2S,6S)-2-palmitoylamino-6,7-bis(palmitoyloxy)heptanoyl-Ser-(Lys)4 [Pam3Adh-Ser-(Lys)4] an Pam3Cys-Ser-Gly did not induce tyrosine phosphorylation. Lipopeptide-induced tyrosine phosphorylation was not affected by treatment of cells with pertussis toxin. Neither phorbol 12-myristate 13-acetate nor A23187 induced tyrosine phosphorylation in dibutyryl-cyclic-AMP-differentiated HL-60 cells. In HL-60 promyelocytes, Pam3Cys-Ser-(Lys)4 had no effect on tyrosine phosphorylation, whereas the lipopeptide also induced tyrosine phosphorylation in 1,25-dihydroxyvitamin-D3-differentiated HL-60 cells and in human neutrophils. Thus, lipopeptides are effective stimulators of tyrosine phosphorylation in mature human myeloid cells.
IT **112208-00-1 133933-85-4 139470-63-6**
RL: BIOL (Biological study)
(tyrosine phosphorylation in human myeloid cells stimulation by)

L39 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:126769 HCAPLUS
DOCUMENT NUMBER: 116:126769
TITLE: Incomplete functional differentiation of HL-60 leukemic cells by synthetic lipopeptides. Partial inhibition by pertussis toxin of enhanced superoxide formation
AUTHOR(S): Seifert, Roland; Serke, Stefan; Huhn, Dieter; Bessler, Wolfgang G.; Hauschildt, Sunna; Metzger, Joerg; Wiesmueller, Karl Heinz; Jung, Guenther
CORPORATE SOURCE: Inst. Pharmkol., Freie Univ. Berlin, Berlin, W-1000/33, Germany
SOURCE: European Journal of Biochemistry (1992), 203(1-2), 143-51
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In human neutrophils, the synthetic lipopeptide, N-palmitoyl-S-[2,3-bis(palmitoyloxy-2(RS)-propyl]-(R)-cysteinyl-(S)-seryl-(S)-lysyl-(S)-lysyl-(S)-lysyl-(S)-lysine [Pam3CysSer(Lys)4], activates NADPH-oxidase catalyzed superoxide (O2-) formation through pertussis-toxin-sensitive and pertussis-toxin-insensitive mechanisms (Seifert, R., et al., 1990). The effects of lipopeptides on differentiation were studied in HL-60 leukemic cells. Pam3CysSer(Lys)4 enhanced phorbol-12-myristate-13-acetate-induced

O2 formation (presumably through the expression of components of NADPH oxidase) in a concn.-dependent manner with a half-maximal effect at 100 ng/mL and a max. at 1 .mu.g/mL. The effect of the lipopeptide was evident after 24 h and reached a plateau after 48 h. (2S,6S)-2-Palmitoylamino-6,7-bis(palmitoyloxy)heptanoyl-(S)-seryl-(S)-lysyl-(S)-lysyl-(S)-lysyl-(S)-lysine enhanced O2- formation as well. The effects of Pam3CysSer(Lys)4 were potentiated by dibutyryl cAMP, DMSO, retinoic acid, 1,25-dihydroxyvitamin D3, interferon-.gamma., and tumor-necrosis-factor-.alpha.. Pertussis toxin, but not its B-oligomer, partially inhibited enhanced O2- formation induced by Pam3CysSer(Lys)4. O2- formation induced by arachidonic acid and .gamma.-hexachlorocyclohexane were more sensitive to inhibition by pertussis toxin than O2- formation induced by phorbol 12-myristate 13-acetate. Enhanced O2- formation induced by dibutyryl cAMP was not affected by pertussis toxin. Unlike ATP, histamine, prostaglandin E1, and the .beta.-adrenergic agonist, isoproterenol, Pam3CysSer(Lys)4 did not increase cytosolic Ca2+ ([Ca2+]i) in undifferentiated HL-60 cells. Histamine but not lipopeptides stimulated high-affinity GTPase of guanine-nucleotide-binding proteins in membranes of undifferentiated HL-60 cells. In Pam3CysSer(Lys)4-differentiated HL-60 cells, the responsiveness to the [Ca2+]i-increasing agonists, N-formyl-L-Met-L-Leu-L-Phe, C5a, and leukotriene B4, was increased, whilst the responsiveness to prostaglandin E1 and isoproterenol was decreased. Pam3CysSer(Lys)4 did not inhibit proliferation of HL-60 cells but decreased transferrin receptor expression and increased C3bi receptor expression. Pertussis toxin did not affect proliferation and expression of transferrin and C3bi receptors. Dibutyryl cAMP was considerably more effective than Pam3CysSer(Lys)4 at inducing alterations in the above parameters. Thus, (a) Pam3CysSer(Lys)4 induces incomplete functional differentiation of HL-60 cells through a mechanism which does not depend on a rise in [Ca2+]i and is different from that of other differentiation-inducing substances and (b) the mechanism by which Pam3CysSer(Lys)4 induces differentiation involves pertussis-toxin-sensitive and pertussis-toxin-insensitive mechanisms.

IT **112208-00-1P 133933-85-4P 139470-61-4P**
139470-62-5P 139470-63-6P 139470-64-7P
RL: PREP (Preparation)
(HL-60 leukemic cell formation of superoxide ion potentiation by, pertussis toxin inhibition of, human neutrophil differentiation in relation to)

L39 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1992:104038 HCAPLUS
DOCUMENT NUMBER: 116:104038
TITLE: The influence of various adjuvants on antibody synthesis following immunization with an hapten
AUTHOR(S): Kellner, Josefine; Erhard, Michael; Schranner, Iris; Loesch, Uli
CORPORATE SOURCE: Tieraerzliche Fak., Ludwig-Maximilians-Univ., Munich, W-8000/22, Germany
SOURCE: Biological Chemistry Hoppe-Seyler (1992), 373(1), 51-5
CODEN: BCHSEI; ISSN: 0177-3593
DOCUMENT TYPE: Journal
LANGUAGE: English

AB For the prodn. of specific antibodies to the hapten MATP (4-amino-1,2,2-trimethylphenylphosphonate) in Balb/c mice various non-toxic adjuvants were compared to Freund's complete adjuvant (FCA). For immunization the hapten MATP was coupled to the carrier human serum albumin (HSA). The immunostimulating effect of the synthetic lipopeptides Pam3Cys-OH, Pam3Cys-Ser-Ser-Asn-Ala and different concns. of the lipohexapeptide Pam3Cys-Ser-(Lys)4 (Pam3Cys = S-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-N-palmitoyl-(R)-cysteine as well as of aluminum hydroxide were tested. IgG antibody titers in serum were detd. by ELISA. In dose-response studies 50 .mu.g Pam3Cys-Ser-(Lys)4 per mouse was the most ED with a long period of high antibody levels after the second booster.

Pam3Cys-Ser-Ser-Asn-Ala provoked only low antibody titers. Immunostimulation with Pam3Cys-OH did not result in an increased prodn. of specific antibodies. Compared to the control group an enhanced antibody synthesis could be provoked with aluminum hydroxide. However, the increase was much smaller than by using FCA. The lipopeptide Pam3Cys-Ser-(Lys)4 was a very potent adjuvant. One week after booster injection into mice 50 .mu.g of this substance helped to elicit a higher antibody titer than FCA. Hence, as far as the degree of antibody prodn. is concerned, Pam3Cys-Ser-(Lys)4 represents an alternative adjuvant to FCA.

IT 87173-03-3 112208-00-1
RL: PRP (Properties)
(adjuvantcy of)

L39 ANSWER 45 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:630285 HCAPLUS
DOCUMENT NUMBER: 115:230285
TITLE: Increase in the intracellular free calcium concentration is not an obligatory early event in lipopeptide-induced B-cell activation
AUTHOR(S): Hauschildt, S.; Lueckhoff, A.; Langhorne, J.; Wiesmueller, K. H.; Jung, G.; Bessler, W.; Cambier, J. C.
CORPORATE SOURCE: Inst. Immunbiol., Univ. Freiburg, Freiburg, D-7800, Germany
SOURCE: Immunology (1991), 73(3), 366-8
CODEN: IMMUAM; ISSN: 0019-2805
DOCUMENT TYPE: Journal
LANGUAGE: English
AB It was recently shown that synthetic lipopeptides, analogs of the N-terminal region of bacterial lipoprotein, induce DNA synthesis in B lymphocytes in the absence of enhanced phosphatidylinositol 4,5-bisphosphate hydrolysis and protein kinase C translocation. Here is demonstrated that lipopeptides are capable of inducing enhanced expression of MHC class II mols. and early increases in the intracellular free calcium concn. ([Ca2+]i) in B cells. However, they do not effect T cells. The increase in [Ca2+]i seen in B cells is due primarily to Ca2+ release from intracellular stores. Since lipopeptides differ in their capability to induce early increases in [Ca2+]i and since the calcium response does not correlate with the ability of lipopeptides to induce proliferation and expression of MHC class II mols., this biochem. event may not be essential for lipopeptide-mediated B-cell activation.

IT 87173-03-3 112208-00-1
RL: BIOL (Biological study)
(bacterial, B-cell activation by, calcium nonessential role in)

L39 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:450263 HCAPLUS
DOCUMENT NUMBER: 115:50263
TITLE: Lipopeptides containing 2-(palmitoylamino)-6,7-bis(palmitoyloxy)heptanoic acid: synthesis, stereospecific stimulation of B-lymphocytes and macrophages and adjuvanticity in vivo and in vitro
AUTHOR(S): Metzger, Joerg; Jung, Guenther; Bessler, Wolfgang G.; Hoffmann, Petra; Strecker, Marianne; Lieberknecht, Albrecht; Schmidt, Ulrich
CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400, Germany
SOURCE: Journal of Medicinal Chemistry (1991), 34(7), 1969-74
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 115:50263

AB Lipopeptides contg. 2-(palmitoylamino)-6,7-bis(palmitoyloxy)heptanoic acid (Pam3Adh-OH) (I) were obtained by solid-phase synthesis and by synthesis in soln. 2-Amino-6,7-dihydroxyheptanoic acid (Adh) can be regarded as a methylene analog of S-glycerylcysteine, the N-terminal amino acid of lipoprotein from the outer cell membrane of Escherichia coli (a methylene group is substituted for the sulfur atom). The lipopeptides Pam3Adh-Ser-Ser-Asn-Ala-OH (II) contg. the 4 possible stereoisomers of I [(2S,6S)-I, (2S,6R)-I, (2R,6S)-I, and (2R,6R)-I] and Pam3Adh-Ser-(Lys)4-OH (III) contg. the (2S,6S)-I stereoisomer were capable of stimulating murine splenocytes polyclonally in vitro, as detd. in a proliferation assay and in a hemolytic plaque assay against trinitrophenylated sheep erythrocytes. (2S,6S)-II and (2R,6S)-II were more active than (2S,6R)-II and (2R,6R)-II; a change of the configuration at C-2 had less effect on the stimulatory activity. (2S,6S)-II and (2S,6S)-III are potent immunoadjuvants, and (2S,6S)-III was able to induce tumor cytotoxicity against the tumor cell line L929 in bone marrow derived macrophages.

IT **133933-87-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and coupling of, with lipoamino acid)

IT **133933-88-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and deblocking of)

IT **133933-86-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrogenolysis of)

IT **133933-84-3P 133933-85-4P 134001-84-6P**
134001-85-7P 134001-86-8P 134001-87-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and immunoadjuvant activity of)

L39 ANSWER 47 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:178021 HCAPLUS
DOCUMENT NUMBER: 114:178021
TITLE: Biological activity of bacterial surface components: bacterial extracts and defined bacterial cell wall components as immunomodulators
AUTHOR(S): Bessler, W. G.; Kleine, B.; Martinez Alonso, C.; Biesert, L.; Strecker, M.; Wiesmueller, K. H.; Metzger, J.; Jung, G.
CORPORATE SOURCE: Inst. Immunbiol., Univ. Freiburg, Freiburg, Germany
SOURCE: Lung (1990), 168(Suppl.), 707-15
CODEN: LUNGD9; ISSN: 0341-2040
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Bacterial exts. obtained from pathogenic strains occurring in lung infections (Broncho Vaxom) or urogenital infections (Urovaxom) as well as defined surface components of Gram-neg. bacteria purified from bacteria or obtained by chem. synthesis were tested for their immunomodulatory properties in a murine system. The bacterial exts. were able to act as immunogens inducing an antigen-specific response. Both the bacterial exts. and the purified bacterial cell wall components constituted polyclonal activators of murine splenic B cells, as demonstrated by proliferation assays measuring the incorporation of [3H]thymidine into DNA. They were also able to act as immunoadjuvants increasing the sheep red cell and the bovine serum albumin-TNP specific immune response, and could induce tumor cytotoxicity in bone marrow-derived macrophages. The results show that bacterial exts. and defined bacterial surface components constitute immunogens as well as immunomodulators in vitro and in vivo.

IT **87173-03-3 112208-00-1**
RL: BIOL (Biological study)

(gram-neg. bacterial surface component, as immunomodulator)

L39 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:164770 HCAPLUS
DOCUMENT NUMBER: 114:164770
TITLE: Synthesis of novel immunologically active tripalmitoyl-S-glycerylcysteinyl lipopeptides as useful intermediates for immunogen preparations
AUTHOR(S): Metzger, Joerg; Wiesmueller, Karl Heinz; Schaude, Renate; Bessler, Wolfgang G.; Jung, Guenther
CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, D-7400, Germany
SOURCE: International Journal of Peptide & Protein Research (1991), 37(1), 46-57
CODEN: IJPPC3; ISSN: 0367-8377
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The synthesis and characterization of lipopeptides consisting of the lipoamino acid N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-[R]-cysteine (Pam3Cys-OH) and different peptide segments and/or spacer mols. is described. Pam3Cys-peptides, which are derived from the immunol. active N-terminus of bacterial lipoprotein, were obtained either by soln. or solid-phase peptide synthesis.d. In particular, the amphiphilic and water-sol. lipophexapeptide Pam3Cys-Ser-(Lys)4 and Pam3Cys-Ser-(Glu)4 proved to be potent macrophage and B-cell activators and non-toxic, non-pyrogenic immune adjuvants in combination with or covalently linked to antigens and haptens.
IT **132866-34-3P 132956-97-9P 132957-09-6P**
132957-10-9P 133004-62-3P 133004-63-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and immunol. activity of)
IT **133004-64-5P 133004-65-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L39 ANSWER 49 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:589572 HCAPLUS
DOCUMENT NUMBER: 113:189572
TITLE: Induction and activity of nitric oxide synthase in bone-marrow-derived macrophages are independent of calcium
AUTHOR(S): Hauschildt, Sunna; Lueckhoff, Andreas; Muelsch, Alexander; Kohler, Juergen; Bessler, Wolfgang; Busse, Rudi
CORPORATE SOURCE: Inst. Immunobiol., Univ. Freiburg, Freiburg, Germany
SOURCE: Biochemical Journal (1990), 270(2), 351-6
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The aim of the present study was to det. whether an increase in the intracellular free Ca2+ concn. ([Ca2+]i) plays a role as a signal mediating synthesis of nitric oxide (NO) in bone-marrow-derived macrophages, either by stimulating induction of NO synthase or by regulating the activity of the enzyme. Therefore, the authors compared the effects of various synthetic analogs of bacterial lipopeptide and of lipopolysaccharide (LPS) on NO prodn. (assessed as nitrite formation during an incubation for 24 h) and on [Ca2+]i. Strongly dissocg. effects were evoked on nitrite formation and on [Ca2+]i by the stimuli. LPS was preferentially effective on nitrite formation, whereas the Ca2+ ionophore ionomycin and AlF3 induced increases only in [Ca2+]i. The lipopeptides N-palmitoyl-(S)-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-(R)-cysteinylalanylglycine, N-palmitoyl-(S)-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-(R)-cysteine, N-palmitoyl-(S)-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-

(R)-cysteinylseryl-lysyl-lysyl-lysyl-lysine and (S)-(1,2-dicarboxyhexadecyl)ethyl-N-palmitoylcysteinylseryl-lysyl-lysyl-lysyl-lysine stimulated both parameters, but the maximal effects on nitrite formation and the shape of the dose-response curves did not parallel the effects on [Ca2+]i. Decrease of extracellular Ca2+ with EGTA inhibited increases in [Ca2+]i, but did not change nitrite formation. NO synthesis in the cytosolic fraction of stimulated macrophages was not affected by Ca2+ over the concn. range 10 nM-2 .mu.M. Thus, increases in [Ca2+]i are not required for NO prodn. in bone-marrow-derived macrophages. The cellular regulation of NO prodn. strikingly differs from that in the vascular endothelium, brain and adrenal gland.

IT **129992-06-9**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(nitric oxide formation by macrophage response to)

L39 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:476368 HCAPLUS
DOCUMENT NUMBER: 113:76368
TITLE: Anaphylactic properties of monohaptenic dinitrophenylated tripalmitoyl-S-glyceryl-cysteinyl lipopeptides
AUTHOR(S): Schneider, Conrad H.; Rolli, Hanspeter; Metzger, Joerg; Jung, Guenther
CORPORATE SOURCE: Inst. Clin. Immunol., Univ. Berne, Bern, CH-3010, Switz.
SOURCE: Molecular Immunology (1990), 27(3), 241-5
CODEN: MOIMD5; ISSN: 0161-5890
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Tripalmitoyl-S-glycerylcysteinyl lipopeptides are B-cell and macrophage activating and may be used as low mol. wt. immunogens of considerable potency and even as vaccines when conjugated with suitable epitopic structures. Selected lipopeptides carrying single dinitrophenyl (Dnp) haptens were found to evoke mild passive cutaneous anaphylaxis in guinea pigs sensitized against Dnp. The reactions were obsd. after i.v. injection whereas intradermally applied antigen was neg. The anaphylactogenicity seems unrelated to micelle or aggregate formation of the insol. peptides which require lecithin addns. as well as sonication to become solubilized. The dinitrophenylated lipopeptide tripalmitoyl-S-glyceryl-cysteinyl-seryl-lysine produced toxic reactions which were not obsd. with the lipopeptide devoid of Dnp. Dinitrophenylated tripalmitoyl-S-glycerylcysteinyl-1,6-diaminohexane and tripalmitoyl-S-glyceryl-cysteinyl-lysine did not show these toxic reactions.
IT **128545-11-9**
RL: BIOL (Biological study)
(anaphylactic properties of)

L39 ANSWER 51 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:438716 HCAPLUS
DOCUMENT NUMBER: 113:38716
TITLE: Activation of superoxide formation and lysozyme release in human neutrophils by the synthetic lipopeptide Pam3Cys-Ser-(Lys)4. Involvement of guanine-nucleotide-binding proteins and synergism with chemotactic peptides
AUTHOR(S): Seifert, Roland; Schultz, Guenter; Richter-Freund, Martina; Metzger, Joerg; Wiesmueller, Karl Heinz; Jung, Guenther; Bessler, Wolfgang G.; Hauschildt, Sunna
CORPORATE SOURCE: Inst. Pharmakol., Freie Univ. Berlin, Berlin, D-1000/33, Germany

SOURCE: Biochemical Journal (1990), 267(3), 795-802
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Upon exposure to the bacterial chemotactic peptide fMet-Leu-Phe, human neutrophils release lysozyme and generate superoxide anions (O2-). The synthetic lipoamino acid N-palmitoyl-S-[2,3-bis(palmitoyloxy)-2RS)-propyl]-(R)-cysteine (Pam3Cys), which is derived from the N-terminus of bacterial lipoprotein, when attached to Ser-(Lys)4 [giving Pam3CysSer-(Lys)4], activated O2- formation and lysozyme release in human neutrophils with an effectiveness amounting to about 15% of that of fMet-Leu-Phe. Palmitic acid, muramyl dipeptide, lipopolysaccharide, and the lipopeptides Pam3Cys-AlaGly, Pam3Cys-Ser-Gly, Pam3Cys-Ser, Pam3Cys-OMe, and Pam3Cys-OH did not activate O2- formation. Pertussis toxin, which ADP-ribosylates guanine-nucleotide-binding proteins (G-proteins) and functionally uncouples formyl peptide receptors from G-proteins, prevented activation of O2- formation by fMet-Leu-Phe and inhibited Pam3Cys-Ser-(Lys)4- induced O2- formation by 85%. Lipopeptide-induced exocytosis was pertussis-toxin-insensitive. O2- formation induced by Pam3Cys-Ser-(Lys)4 and fMet-Leu-Phe was enhanced by cytochalasin B, by a phorbol ester, and by a diacylglycerol kinase inhibitor. Addn. of activators of adenylate cyclase and removal of extracellular Ca2+ inhibited O2- formation by fMet-Leu-Phe and Pam3Cys-Ser-(Lys)4 to different extents. Pam3Cys-Ser(Lys)4 synergistically enhanced fMet-Leu-Phe-induced O2- formation and primed neutrophils to respond to the chemotactic peptide at non-stimulatory concns. Thus, Pam3Cys-Ser-(Lys)4 activates neutrophils through G-proteins, involving pertussis-toxin-sensitive and -insensitive processes. The signal transduction pathways activated by fMet-LeuPhe and Pam3Cys-Ser-(Lys)4 are similar but not identical. In inflammatory processes, bacterial lipoproteins and chemotactic peptides may interact synergistically to activate O2- formation, leading to enhanced bactericidal activity.

IT 112208-00-1
RL: BIOL (Biological study)
(as bacterial lipopeptide deriv., human neutrophil activation induction by, formylpeptide synergy with, G proteins in)

L39 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:526545 HCAPLUS
DOCUMENT NUMBER: 111:126545
TITLE: Induction of tumor cytotoxicity in murine bone marrow-derived macrophages by two synthetic lipopeptide analogs
AUTHOR(S): Hoffmann, Petra; Wiesmueller, Karl Heinz; Metzger, Joerg; Jung, Guenther; Bessler, Wolfgang G.
CORPORATE SOURCE: Inst. Immunbiol., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.
SOURCE: Biological Chemistry Hoppe-Seyler (1989), 370(6), 575-82
CODEN: BCHSEI; ISSN: 0177-3593
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lipoprotein from the outer membrane of Escherichia coli and the synthetically prepd. lipopeptides Pam3Cys-Ala-Gly and Pam3Cys-Ser-[Lys]4 derived from the N-terminus of lipoprotein constitute potent macrophage and polyclonal B-lymphocyte activators. The compds. have also been shown to induce tumor cytotoxicity in murine bone marrow-derived macrophages (BMDM). Bone marrow stem cells were cultured in the presence of colony-stimulating factor 1 to yield BMDM of 98-99% purity at day 8. After stimulation with the lipopeptides on days 4, 6, 8, and 10 of bone marrow culture, the cytotoxic effect of BMDM on the tumor cell line L929 was detd. in a [3H]thymidine release assay. Max. tumor cytotoxicity was found on day 8 with an optimal effector/target-cell ratio of 10:1, and a

duration of lipopeptide stimulation of 4 h. The supernatants of lipopeptide stimulated BMDM also showed cytotoxic activity that could be inhibited by antiserum against tumor necrosis factor .alpha.. The effects of the lipopeptides Pam3Cys-Ala-Gly and Pam3Cys-Ser-[Lys]4 were comparable or superior to those exerted by lipopolysaccharide. Thus, synthetic lipopeptides are potent activators for murine BMDM and may therefore prove to be an important tool for the elucidation of the role of macrophages in the host defense mechanisms against tumor cells.

IT **112208-00-1**
RL: BIOL (Biological study)
(as bacterial outer membrane lipoprotein analog, macrophage tumor cytotoxicity stimulation by)

L39 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:489964 HCAPLUS
DOCUMENT NUMBER: 111:89964
TITLE: Lipopeptide derivatives of bacterial lipoprotein constitute potent immune adjuvants combined with or covalently coupled to antigen or hapten
AUTHOR(S): Reitermann, Annette; Metzger, Joerg; Wiesmueller, Karl Heinz; Jung, Guenther; Bessler, Wolfgang C.
CORPORATE SOURCE: Inst. Immunbiol., Univ. Freiburg, Freiburg, D-7800, Fed. Rep. Ger.
SOURCE: Biological Chemistry Hoppe-Seyler (1989), 370(4), 343-52
CODEN: BCHSEI; ISSN: 0177-3593
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lipopeptide analogs of the N-terminus of bacterial lipoprotein consisting of N-palmitoyl-S-[2,3-bis(palmitoyloxy)-(2RS)-propyl]-(R)-cysteine (Pam3Cys) attached to one to five further amino acids [Pam3Cys-Ser-Ser-Asn-Ala, Pam3Cys-Ser-(Lys)4, Pam3Cys-Ala-Gly, and Pam3Cys-Ser] were investigated for biol. activity. In vitro, the compds. were potent activators for Balb/c splenocytes as detd. by proliferation assays. When given in vivo in combination with SRBC, Pam3Cys-Ser and Pam3Cys-Ala-Gly acted as immunoadjuvants enhancing the antigen specific IgM response after 7, and the IgG response after 14 days. In combination with dinitrophenylated bovine serum albumin (BSA(Dnp)), esp. the amphiphilic and water-sol. lipohexapeptide Pam3Cys-Ser-(Lys)4 constituted a potent immune adjuvant. The lipopeptide was able to fully replace Freund's complete adjuvant (FCS) enhancing both anti-Dnp IgM and IgG in Balb/c mice. The hapten Dnp was also coupled directly - or via the spacer mol. 1,6-diaminohexane (HMD) - to the synthetic lipopeptides. The chem. defined low-mol.-mass conjugates obtained were capable of inducing anti-hapten-specific IgM and IgG without further adjuvants or carriers.

IT **87173-03-3** **112208-00-1**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(immune adjuvant activity of)

IT **122179-32-2P** **122219-56-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and immune adjuvant activity of)

L39 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:34506 HCAPLUS
DOCUMENT NUMBER: 108:34506
TITLE: Membrane anchor conjugates with active agents, their preparation and uses
PATENT ASSIGNEE(S): Hoechst A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 34 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3546150	A1	19870122	DE 1985-3546150	19851227
FI 8602631	A	19861225	FI 1986-2631	19860619
FI 94419	B	19950531		
FI 94419	C	19950911		
EP 210412	A2	19870204	EP 1986-108324	19860619
EP 210412	A3	19900207		
EP 210412	B1	19951213		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 131491	E	19951215	AT 1986-108324	19860619
DK 8602940	A	19861225	DK 1986-2940	19860623
DK 172399	B1	19980518		
NO 8602511	A	19861229	NO 1986-2511	19860623
NO 174207	B	19931220		
NO 174207	C	19940330		
AU 8658943	A1	19870108	AU 1986-58943	19860623
AU 611385	B2	19910613		
ZA 8604657	A	19870225	ZA 1986-4657	19860623
JP 62063600	A2	19870320	JP 1986-145031	19860623
ES 556417	A1	19880216	ES 1986-556417	19860623
SU 1823876	A3	19930623	SU 1986-4027766	19860623
NO 9200356	A	19861229	NO 1992-356	19920127
US 6024964	A	20000215	US 1995-466695	19950606
US 6074650	A	20000613	US 1995-465709	19950606

PRIORITY APPLN. INFO.:

DE 1985-3522512	A1	19850624
DE 1985-3546150	A	19851227
US 1986-876479	B1	19860620
NO 1986-2511	A1	19860623
DE 1988-3813821	A	19880422
US 1988-229770	B1	19880801
US 1989-340833	B2	19890420
US 1989-427914	B1	19891024
DE 1989-3937412	A	19891110
US 1990-588794	B2	19900827
US 1990-610222	B1	19901108
US 1992-966603	B2	19921026
US 1993-84091	B1	19930630
US 1995-387624	B3	19950213

AB Active agents (antigens, antibiotics, hormones, enzymes, labels, etc.) are conjugated to compds. which can be inserted into cell membranes. The conjugates are useful e.g. to promote cell fusion, to provide cells with fluorescent or spin labels, etc. The extracytoplasmic region of the EGF receptor encompassing residues 516-529 was constructed by the Merrifield resin method, coupled to fluorenylmethoxycarbonyl(tert-butyl)serine and S-[2,3-bis(palmitoyloxy)propyl]-N-palmitoylcysteinylserine(Pam3Cys-Ser) (the N-terminus of the outer membrane lipoprotein of Escherichia coli) as adjuvant, cleaved from the resin, and administered once i.p. to mice. A high titer of antibodies to the EGF receptor peptide was detected within 2 wk.

IT **112207-95-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of and anti-EGF antibody induction by)

IT **112208-01-2P** **112208-02-3DP** reaction products with FITC
112208-04-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as membrane anchor for biol. active agents)

IT **112208-19-2DP**, alkoxybenzyl esters, reaction products with styrene-divinylbenzene copolymer
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, in prepn. of EGF peptide-membrane anchor conjugates)

RN's #13

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USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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STRUCTURE FILE UPDATES:   19 JUN 2003  HIGHEST RN 534550-98-6
DICTIONARY FILE UPDATES:  19 JUN 2003  HIGHEST RN 534550-98-6

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

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L41           53 L40 AND (L5 OR L6 OR L7)

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other nomenclature

F.A./lipo group

D aspartic acid

glut. acid E

```
L41  ANSWER 1 OF 53  REGISTRY  COPYRIGHT 2003 ACS
RN   484648-57-9 REGISTRY
CN   L-Lysine, S-[(2R)-2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-
     cysteinylglycyl-L-asparaginyl-L-asparaginyl-L-.alpha.-aspartyl-L-.alpha.-
     glutamyl-L-seryl-L-asparaginyl-L-isoleucyl-L-seryl-L-phenylalanyl-L-lysyl-
     L-.alpha.-glutamyl- (9CI)  (CA INDEX NAME)
FS   PROTEIN SEQUENCE; STEREOSEARCH
SQL  14
NTE  modified (modifications unspecified)
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SEQ 1 CGNNDESNIS FKEK

HITS AT: 2-14

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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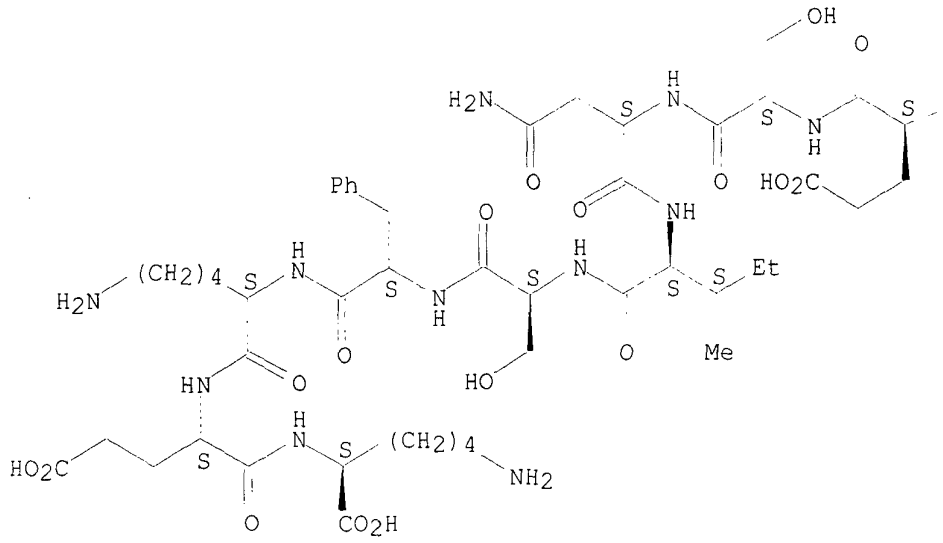

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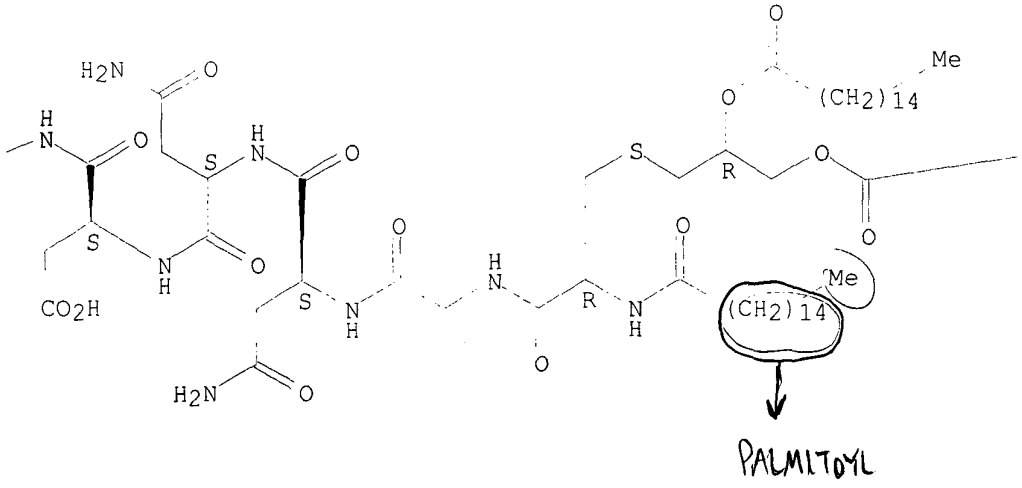

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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 2 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **484648-56-8** REGISTRY
CN L-Lysine, N-acetyl-S-[(2R)-2,3-bis[(1-oxohexadecyl)oxy]propyl]-L-cysteinylglycyl-L-asparaginyl-L-asparaginyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-seryl-L-asparaginyl-L-isoleucyl-L-seryl-L-phenylalanyl-L-lysyl-L-.alpha.-glutamyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 14
NTE modified (modifications unspecified)

type	------ location ------		description
modification	Cys-1	-	acetyl<Ac>
modification	Cys-1	-	undetermined modification

SEQ 1 CGNNDESNIS FKEK
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HITS AT: 2-14

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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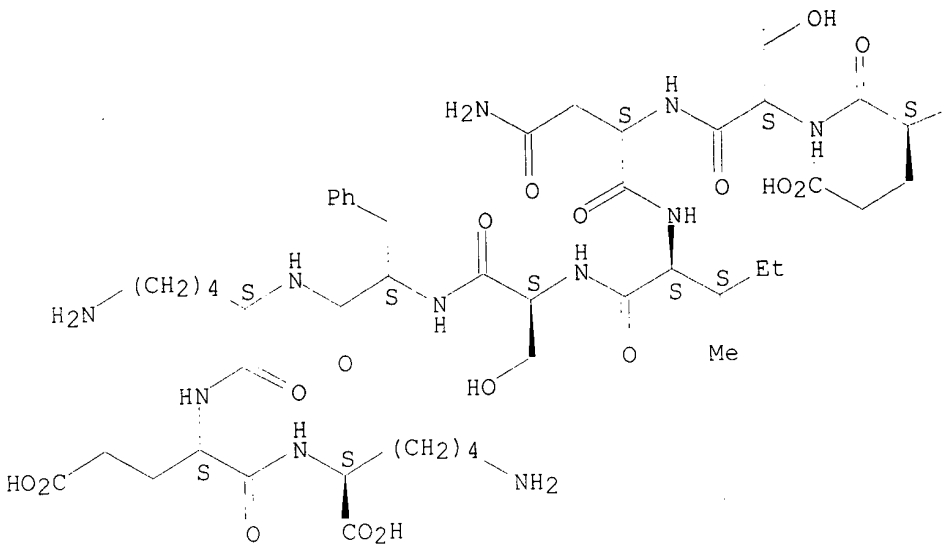
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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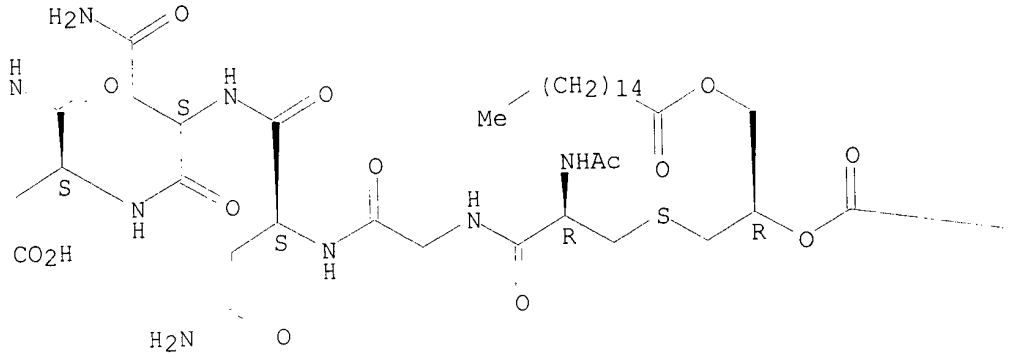

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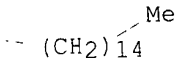

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 3 OF 53 REGISTRY COPYRIGHT 2003 ACS

RN **444796-73-0** REGISTRY
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FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
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type	------ location ------		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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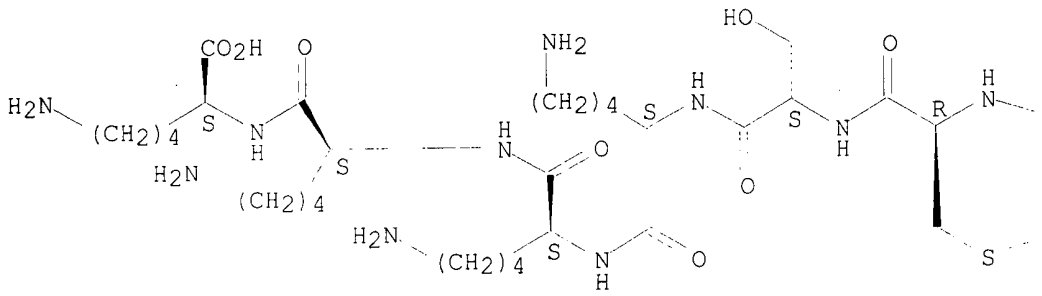
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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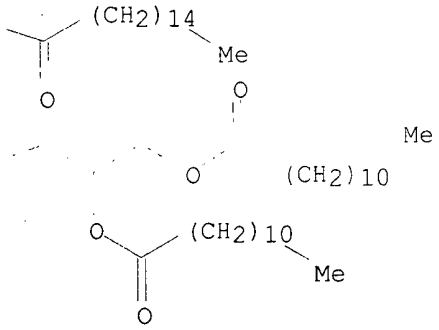

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 4 OF 53 REGISTRY COPYRIGHT 2003 ACS

RN **444796-72-9** REGISTRY
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FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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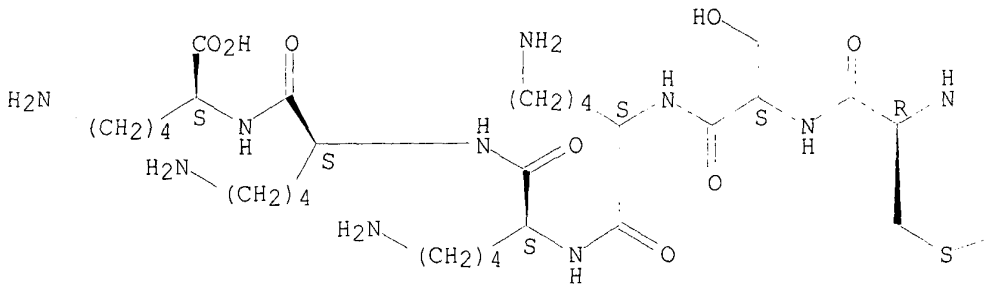
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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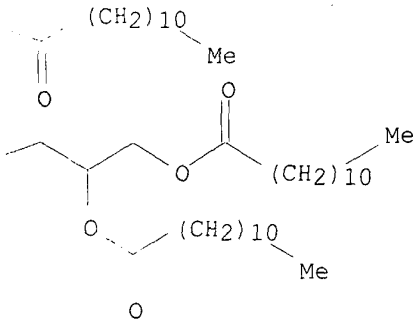

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 5 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **444796-71-8** REGISTRY

CN L-Lysine, S-[2,3-bis[(1-oxotetradecyl)oxy]propyl]-N-(1-oxotetradecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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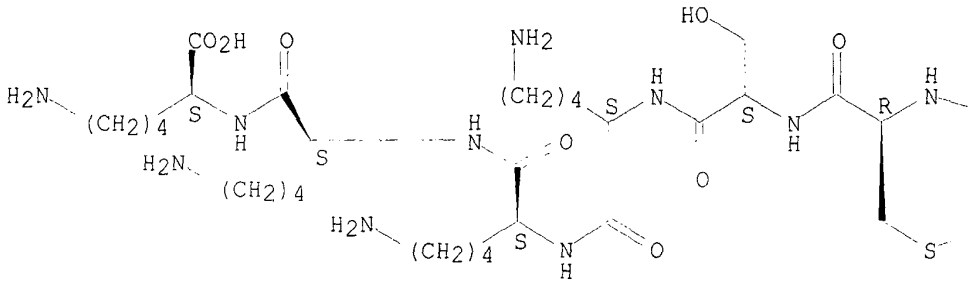
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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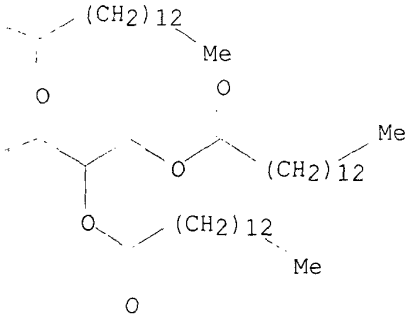


2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 6 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **286021-32-7** REGISTRY
CN Glycine, N-(oxoacetyl)-L-seryl-L-phenylalanyl-L-.alpha.-glutamyl-L-arginyl-

L-phenylalanyl-L-.alpha.-glutamyl-L-isoleucyl-L-phenylalanyl-L-prolyl-L-lysyl-L-.alpha.-glutamylglycylglycyl-L-valylglycyl-L-alanylglycyl-L-valyl-L-asparaginyl-L-asparaginyl-L-.alpha.-glutamyl-L-tyrosyl-L-asparaginyl-L-arginyl-L-isoleucyl-L-leucyl-L-valyl-, (1.fwdarw.1''''),(1'.fwdarw.1''''),(1''.fwdarw.1'''''),(1'''.fwdarw.1''''')-tetraaldoxime with N2,N6-bis[N2,N6-bis[(aminooxy)acetyl]-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysine (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE
SQL 124,28,28,28,28,10,1,1
NTE multichain
modified (modifications unspecified)

type	location		description
bridge	Ser-1	- Lys-1[4']	amide bridge
bridge	Ser-1'	- Lys-1[4']	amide bridge
bridge	Ser-1''	- Lys-1[5']	amide bridge
bridge	Ser-1'''	- Lys-1[5']	amide bridge
bridge	Lys-2[4']	- Lys-1[5']	amide bridge
bridge	Lys-5[4']	- Cys-1[6']	amide bridge

SEQ 1 SFERFEIFPK EGGVGAGVNN EYNRILVG

SEQ 1 SFERFEIFPK EGGVGAGVNN EYNRILVG

SEQ 1 SFERFEIFPK EGGVGAGVNN EYNRILVG

SEQ 1 SFERFEIFPK EGGVGAGVNN EYNRILVG

SEQ 1 KKSSKSKKKK
==== ====

HITS AT: 6-9

SEQ 1 K

SEQ 1 C
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 7 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **286021-31-6** REGISTRY
CN L-Asparagine, N-(oxoacetyl)-L-seryl-L-phenylalanyl-L-.alpha.-glutamyl-L-arginyl-L-phenylalanyl-L-.alpha.-glutamyl-L-isoleucyl-L-phenylalanyl-L-prolyl-L-lysyl-L-.alpha.-glutamylglycylglycyl-L-arginyl-L-phenylalanyl-L-isoleucyl-L-leucyl-L-alanyl-L-histidyl-L-leucyl-L-glutaminyl-L-asparaginyl-L-asparaginyl-L-tyrosyl-L-seryl-L-prolyl-L-asparaginylglycyl-L-asparaginyl-L-threonyl-, (1.fwdarw.1''''),(1'.fwdarw.1''''),(1''.fwdarw.1'''''),(1'''.fwdarw.1''''')-tetraaldoxime with N2,N6-bis[N2,N6-bis[(aminooxy)acetyl]-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysine (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE
SQL 136,31,31,31,31,10,1,1
NTE multichain
modified (modifications unspecified)

type	location		description

bridge	Ser-1	- Lys-1[4']	amide bridge
bridge	Ser-1'	- Lys-1[4']	amide bridge
bridge	Ser-1''	- Lys-1[5']	amide bridge
bridge	Ser-1'''	- Lys-1[5']	amide bridge
bridge	Lys-2[4']	- Lys-1[5']	amide bridge
bridge	Lys-5[4']	- Cys-1[6']	amide bridge

SEQ 1 SFERFEIFPK EGGRFILAHL QNNYSPNGNT N

SEQ 1 SFERFEIFPK EGGRFILAHL QNNYSPNGNT N

SEQ 1 SFERFEIFPK EGGRFILAHL QNNYSPNGNT N

SEQ 1 SFERFEIFPK EGGRFILAHL QNNYSPNGNT N

SEQ 1 KKSSKSKKKK

HITS AT: 6-9

SEQ 1 K

SEQ 1 C
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 8 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **286021-30-5** REGISTRY
CN L-Histidine, N-(oxoacetyl)-L-seryl-L-phenylalanyl-L-.alpha.-glutamyl-L-arginyl-L-phenylalanyl-L-.alpha.-glutamyl-L-isoleucyl-L-phenylalanyl-L-prolyl-L-lysyl-L-.alpha.-glutamylglycylglycyl-L-isoleucyl-L-prolyl-L-asparaginyl-L-.alpha.-aspartyl-L-leucyl-L-prolyl-L-arginyl-L-seryl-L-threonyl-L-alanyl-L-valyl-L-valyl-L-histidyl-L-glutaminyl-L-leucyl-L-lysyl-L-arginyl-L-lysyl-, (1.fwdarw.1''''),(1''.fwdarw.1''''),(1'''.fwdarw.1''''')
,(1'''.fwdarw.1''''')-tetraaldoxime with N2,N6-bis[N2,N6-bis[(aminooxy)acetyl]-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysine (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 140,32,32,32,32,10,1,1
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Ser-1	- Lys-1[4']	amide bridge
bridge	Ser-1'	- Lys-1[4']	amide bridge
bridge	Ser-1''	- Lys-1[5']	amide bridge
bridge	Ser-1'''	- Lys-1[5']	amide bridge
bridge	Lys-2[4']	- Lys-1[5']	amide bridge
bridge	Lys-5[4']	- Cys-1[6']	amide bridge

SEQ 1 SFERFEIFPK EGGIPNDLPR STAVVHQLKR KH

SEQ 1 SFERFEIFPK EGGIPNDLPR STAVVHQLKR KH

SEQ 1 SFERFEIFPK EGGIPNDLPR STAVVHQLKR KH

SEQ 1 SFERFEIFPK EGGIPNDLPR STAVVHQLKR KH

SEQ 1 KKSSKSKKKK
====

HITS AT: 6-9

SEQ 1 K

SEQ 1 C
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 9 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **285558-10-3** REGISTRY
CN L-Lysine, N2,N6-bis[N2,N6-bis[(aminooxy)acetyl]-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl-L-seryl-L-lysyl-L-lysyl-L-lysyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 12,10,1,1
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Lys-2	- Lys-1''	amide bridge
bridge	Lys-5	- Cys-1'	amide bridge

SEQ 1 KKSSKSKKKK
====

HITS AT: 6-9

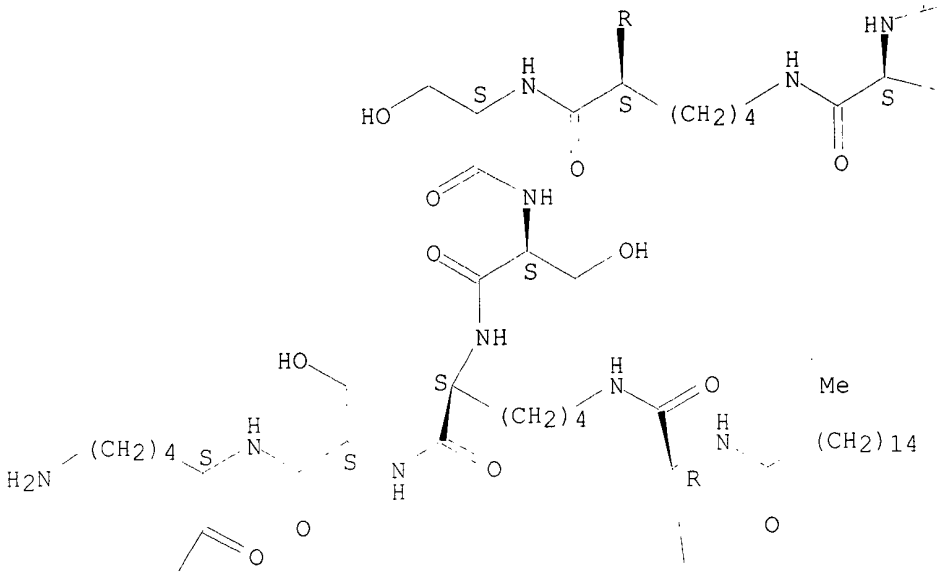
SEQ 1 C

SEQ 1 K

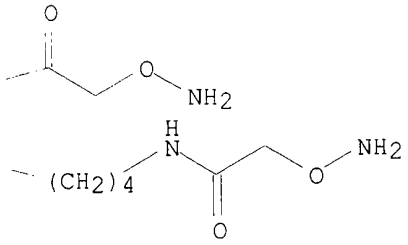
RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C119 H226 N24 O29 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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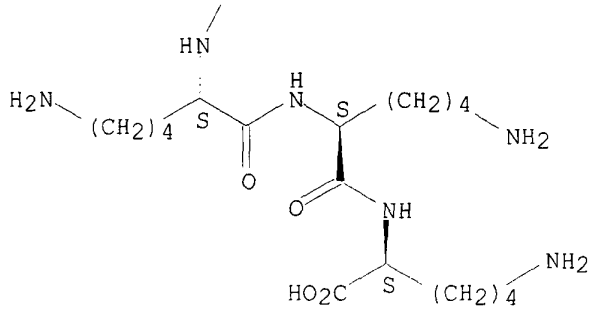

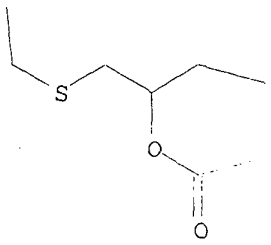

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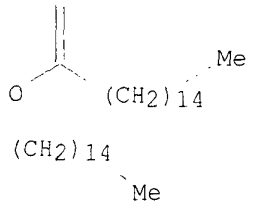

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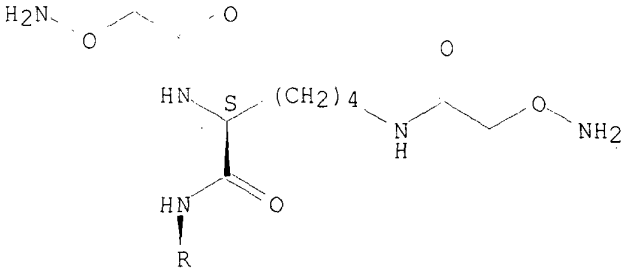


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 10 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **250718-45-7** REGISTRY
CN L-Lysine, S-[(2S)-2,3-bis[(1-oxohexadecyl)oxy]propyl]-L-cysteinylglycyl-L-asparaginyl-L-asparaginyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-seryl-L-asparaginyl-L-isoleucyl-L-seryl-L-phenylalanyl-L-lysyl-L-.alpha.-glutamyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 14
NTE modified (modifications unspecified)

type	------ location ------	description
modification	Cys-1 -	undetermined modification

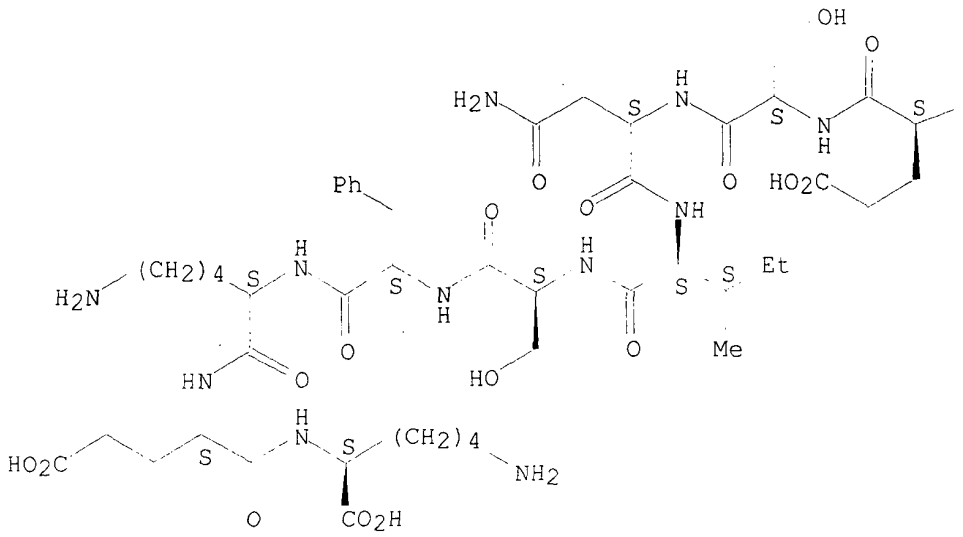
SEQ 1 CGNNDESNIS FKEK
========= ====

HITS AT: 2-14

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C99 H167 N19 O30 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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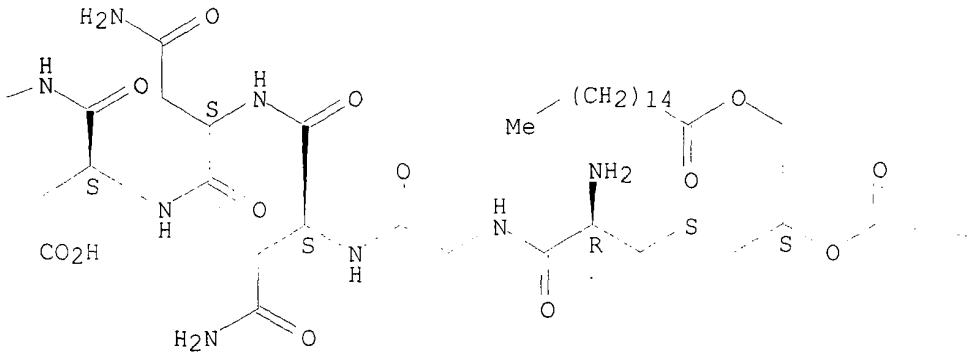
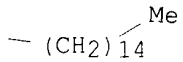




2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 11 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **250718-44-6** REGISTRY
CN L-Lysine, S-[(2R)-2,3-bis[(1-oxohexadecyl)oxy]propyl]-L-cysteinylglycyl-L-asparaginyl-L-asparaginyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-seryl-L-asparaginyl-L-isoleucyl-L-seryl-L-phenylalanyl-L-lysyl-L-.alpha.-glutamyl- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN MALP 2
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 14
NTE modified (modifications unspecified)

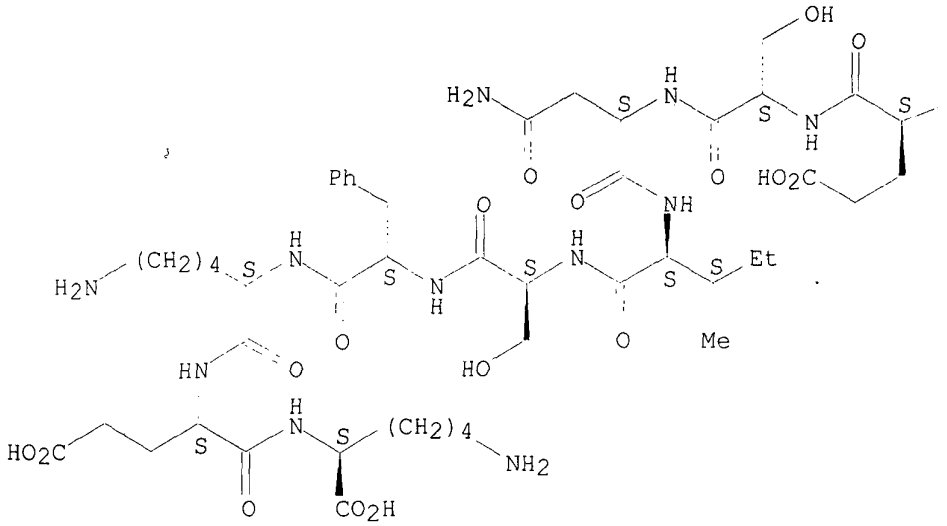
type	------ location ------		description
modification	Cys-1	-	undetermined modification

SEQ 1 CGNNDESNIS FKEK
========= ====
HITS AT: 2-14

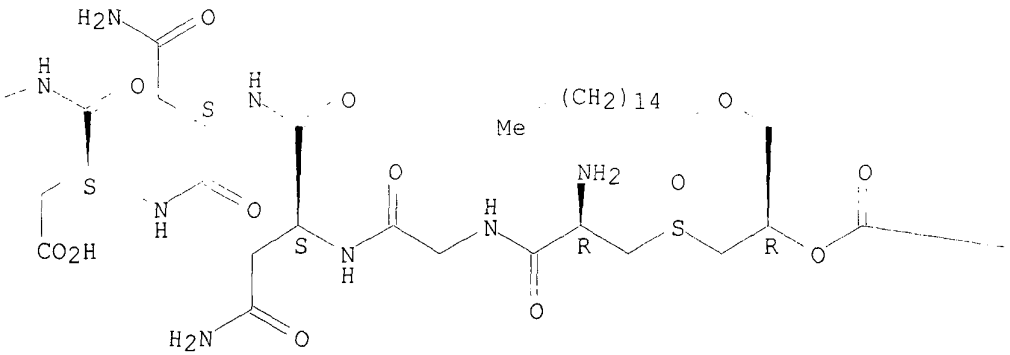
RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C99 H167 N19 O30 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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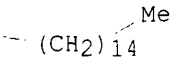

5 REFERENCES IN FILE CA (1957 TO DATE)
5 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 12 OF 53 REGISTRY COPYRIGHT 2003 ACS

RN **219986-24-0** REGISTRY
CN L-Threonine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-L-cysteinylglycyl-L-glutaminyl-L-threonyl-L-asparaginyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified

type	location	description
modification	Cys-1 -	undetermined modification

SEQ 1 CGQTNT
=====
HITS AT: 2-6
MF C57 H104 N8 O15 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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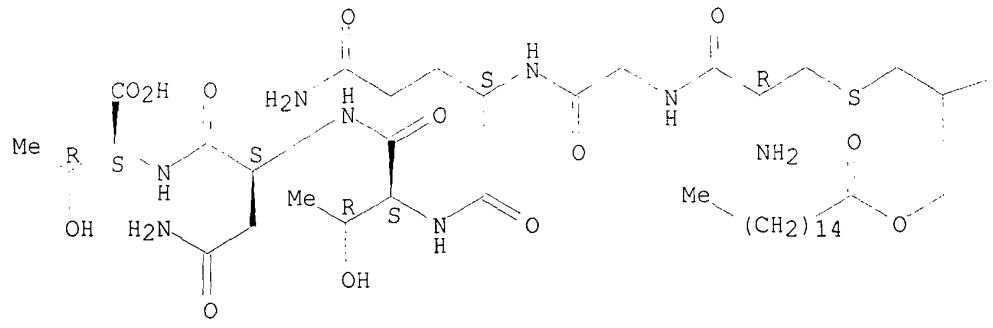

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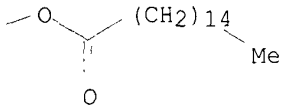


2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 13 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **219986-22-8** REGISTRY
CN L-Lysine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-L-cysteinylglycyl-L-asparaginyl-L-asparaginyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-seryl-L-asparaginyl-L-isoleucyl-L-seryl-L-phenylalanyl-L-lysyl-L-.alpha.-glutamyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 14
NTE modified (modifications unspecified)

type	location	description
modification	Cys-1 -	undetermined modification

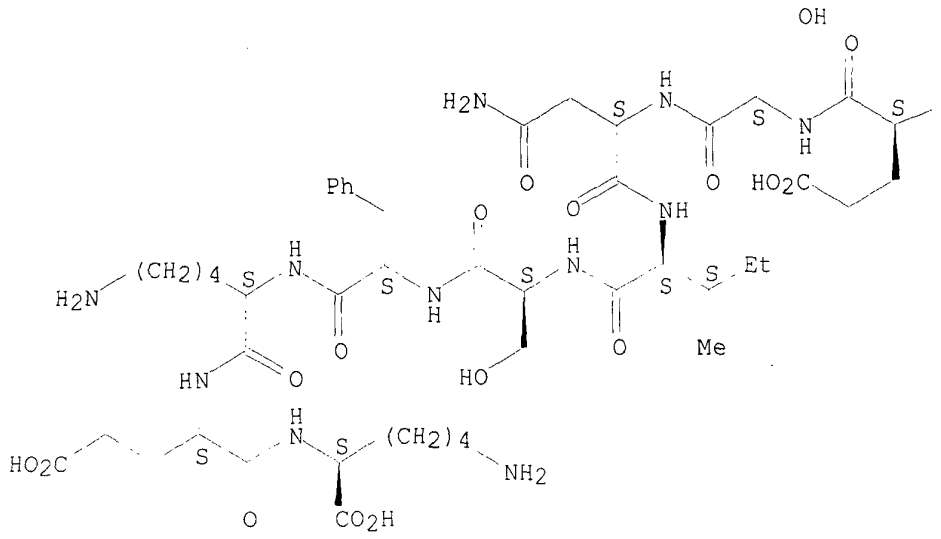
SEQ 1 CGNNDESNIS FKEK
========= ====

HITS AT: 2-14

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C99 H167 N19 O30 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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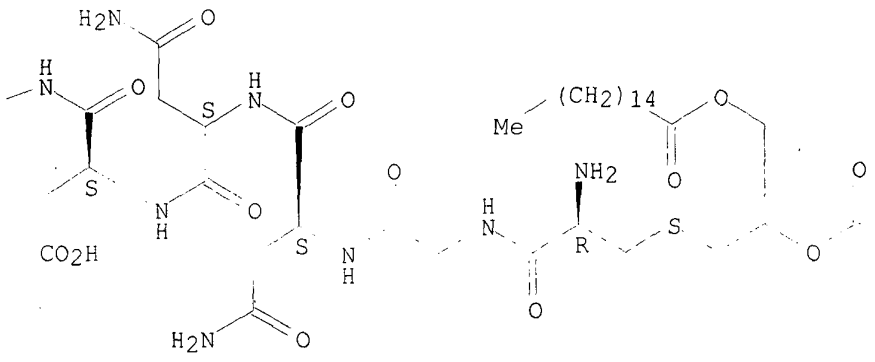

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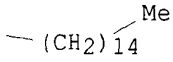

4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 14 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **182956-95-2** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[N2-[6-[[6-[[N-[N2-[N-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-[N-[N-[N-[N-[N-[N-[6-[[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-.beta.-alanyl]-.beta.-alanyl]-L-isoleucyl]-L-leucyl]-L-leucyl]-L-alanyl]glycyl]-L-cysteinyl]-L-seryl]-L-seryl]-L-asparaginyl]-L-alanyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-N6-(2,4-dinitrophenyl)-L-lysyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 22
NTE modified (modifications unspecified)

type	location		description
uncommon	Oaa-1	-	-
uncommon	Oaa-2	-	-
uncommon	Bal-3	-	-
uncommon	Bal-4	-	-
uncommon	Oaa-15	-	-
uncommon	Oaa-16	-	-

SEQ 1 XXXXILLAGC SSNAXXKSKK KK

HITS AT: 18-21
MF C153 H270 N32 O37 S2
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

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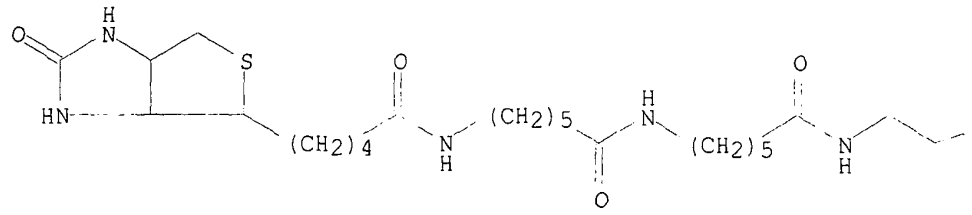

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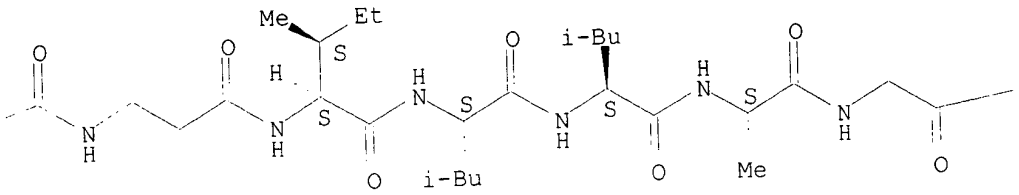

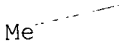

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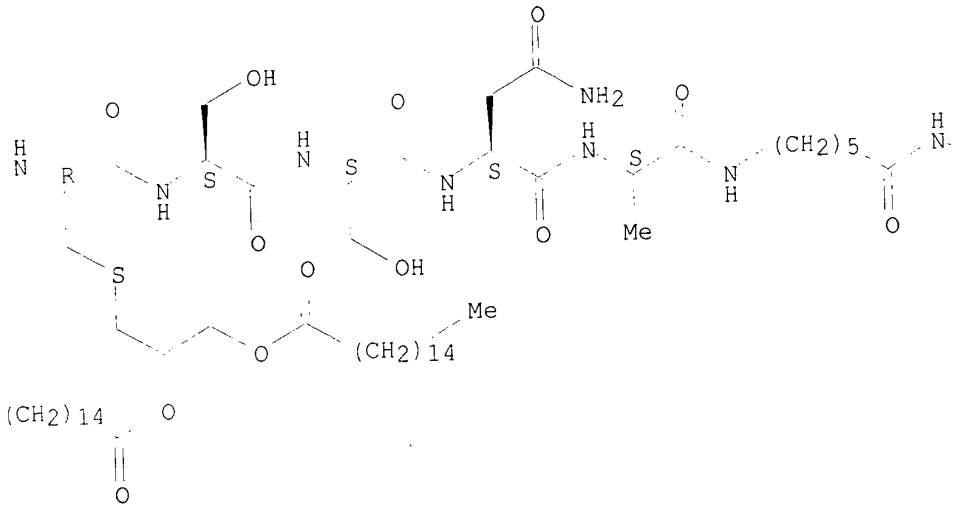

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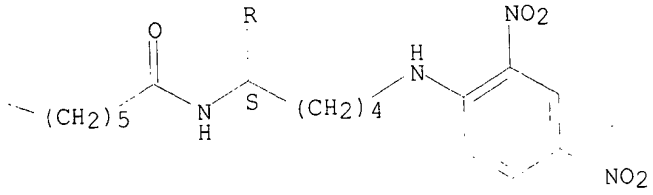

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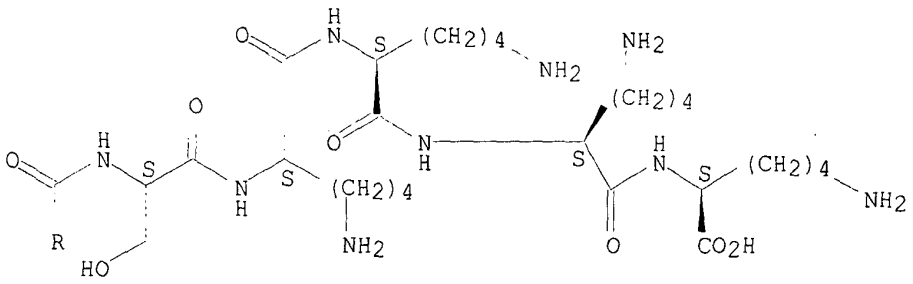


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 15 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **182956-94-1** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[N6-(2,4-dinitrophenyl)-N2-[6-[[6-[[N-[N2-[N-[N-[N2-[N-[N-[N-[N-[N-[N-[N-[N-[6-[[6-[[5-(hexahydro-2-oxo-1H-thieno[3,4-d]imidazol-4-yl)-1-oxopentyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-.beta.-alanyl]-.beta.-alanyl]-L-isoleucyl]-L-leucyl]-L-leucyl]-L-alanyl]glycyl]-L-lysyl]-L-seryl]-L-seryl]-L-asparaginyl]-L-alanyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-L-lysyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, [3aS-(3a.alpha.,4.beta.,6a.alpha.)]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 22
NTE modified (modifications unspecified)

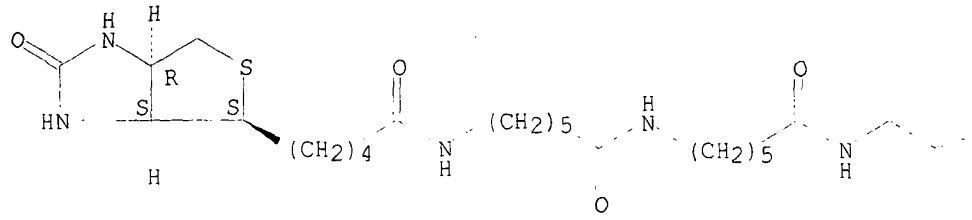
type	location		description
uncommon	Oaa-1	-	-
uncommon	Oaa-2	-	-
uncommon	Bal-3	-	-
uncommon	Bal-4	-	-
uncommon	Oaa-15	-	-
uncommon	Oaa-16	-	-

SEQ 1 XXXXILLAGK SSNAXXKSKK KK
=== =

HITS AT: 18-21
MF C121 H211 N33 O33 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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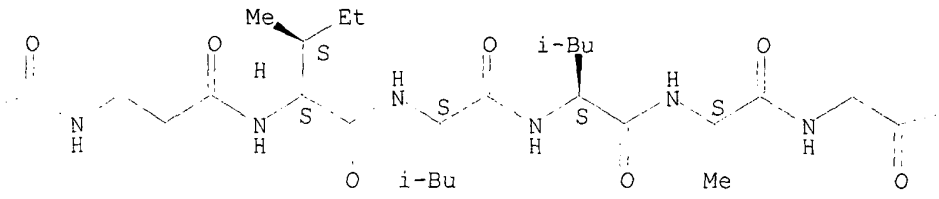

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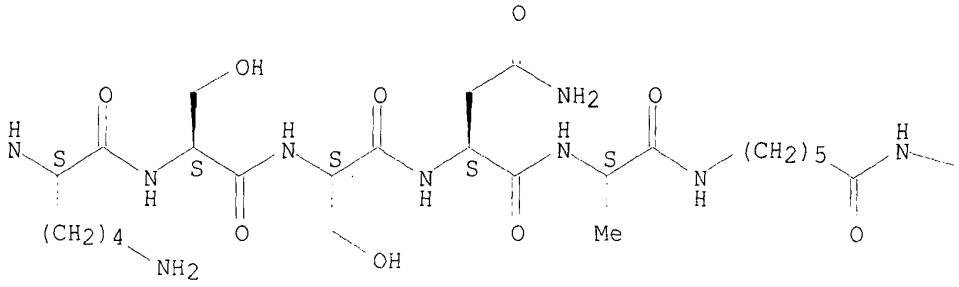
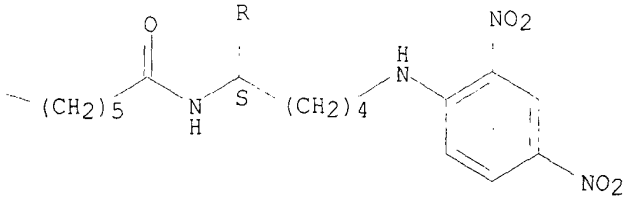


PAGE 1-D



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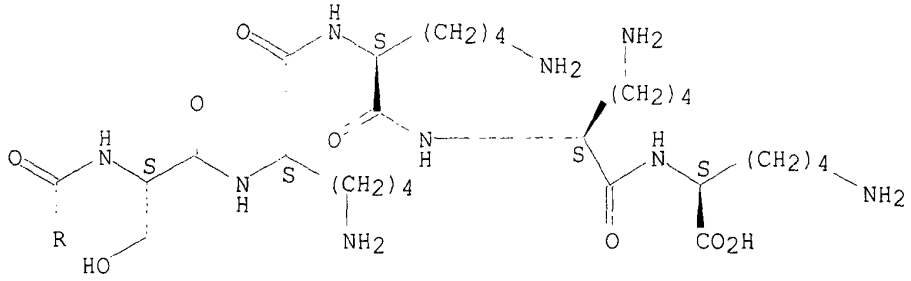


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

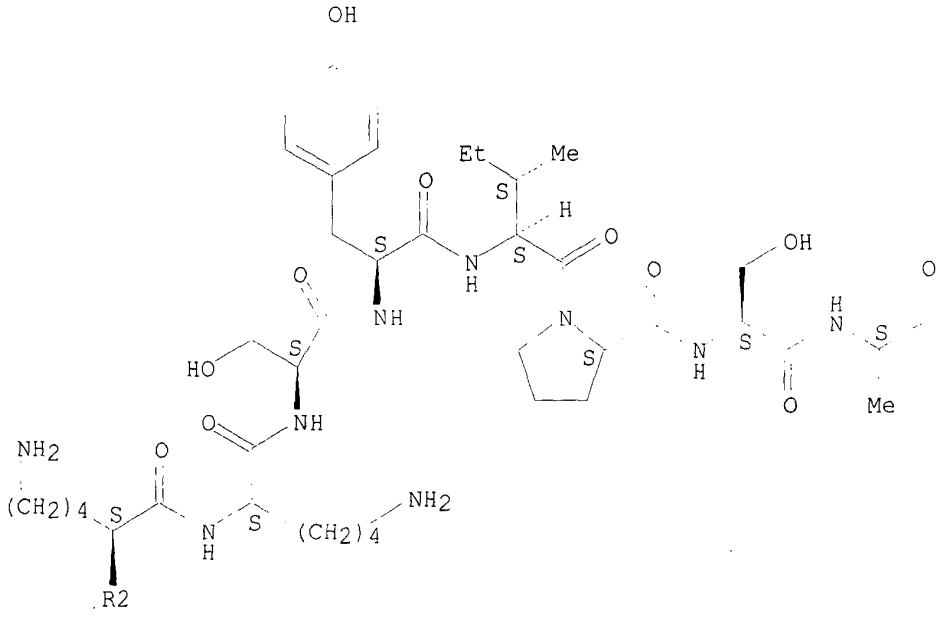
L41 ANSWER 16 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **178951-63-8** REGISTRY
CN L-Isoleucine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-seryl-L-tyrosyl-L-isoleucyl-L-prolyl-L-seryl-L-alanyl-L-.alpha.-glutamyl-L-lysyl-, (R)-(9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 15
NTE modified

type	location		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKKSYIP SAEKI
HITS AT: 2-5
MF C127 H228 N20 O27 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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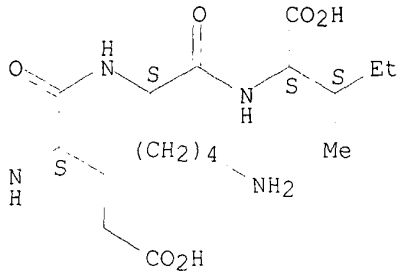

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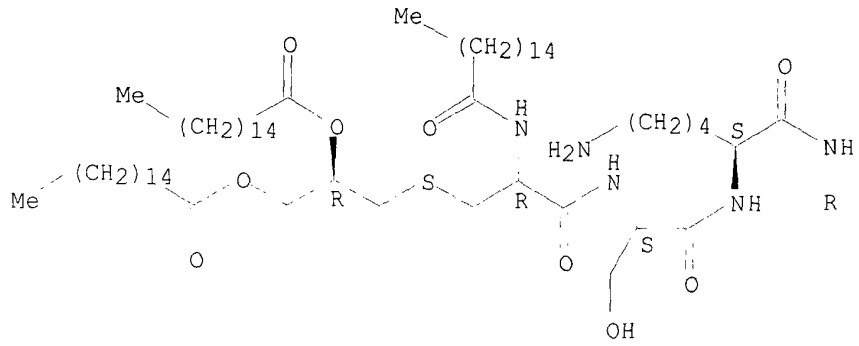
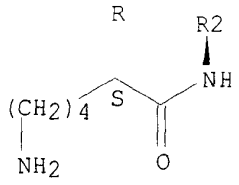




1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 17 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **176023-72-6** REGISTRY
CN L-Threonine, 1-[(aminooxy)acetyl]-L-prolyl-L-lysyl-L-tyrosyl-L-valyl-L-lysyl-L-glutaminyl-L-asparaginyl-L-threonyl-L-leucyl-L-lysyl-L-leucyl-L-alanyl-L-threonylglycyl-L-methionyl-L-arginyl-L-asparaginyl-L-valyl-L-prolyl-L-.alpha.-glutamyl-L-lysyl-L-glutaminyl-, (1''''.fwdarw.1),(1''''.fwdarw.1'),(1'''''.fwdarw.1''),(1''''''.fwdarw.1''')-tetraaldoxime with N2,N6-bis[N2,N6-bis(oxoacetyl)-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysine (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE

SQL 104,23,23,23,23,10,1,1
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Pro-1	- Lys-1[4']	covalent bridge
bridge	Pro-1'	- Lys-1[4']	covalent bridge
bridge	Pro-1''	- Lys-1[5']	covalent bridge
bridge	Pro-1'''	- Lys-1[5']	covalent bridge
bridge	Lys-2[4']	- Lys-1[6']	amide bridge
bridge	Lys-5[4']	- Cys-1[5']	amide bridge

SEQ 1 PKYVKQNTLK LATGMRNVPE KQT

SEQ 1 PKYVKQNTLK LATGMRNVPE KQT

SEQ 1 PKYVKQNTLK LATGMRNVPE KQT

SEQ 1 PKYVKQNTLK LATGMRNVPE KQT

SEQ 1 KKSSKSKKKK
====

HITS AT: 6-9

SEQ 1 C

SEQ 1 K
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 18 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **175789-70-5** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[N2-[N-[N-[N2,N6-bis[N2,N6-bis(oxoacetyl)-L-lysyl]-L-lysyl]-L-seryl]-L-seryl]-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 12,10,1,1
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Lys-1	- Cys-1'	amide bridge
bridge	Lys-2	- Lys-1''	amide bridge

SEQ 1 KKSSKSKKKK
====

HITS AT: 6-9

SEQ 1 C

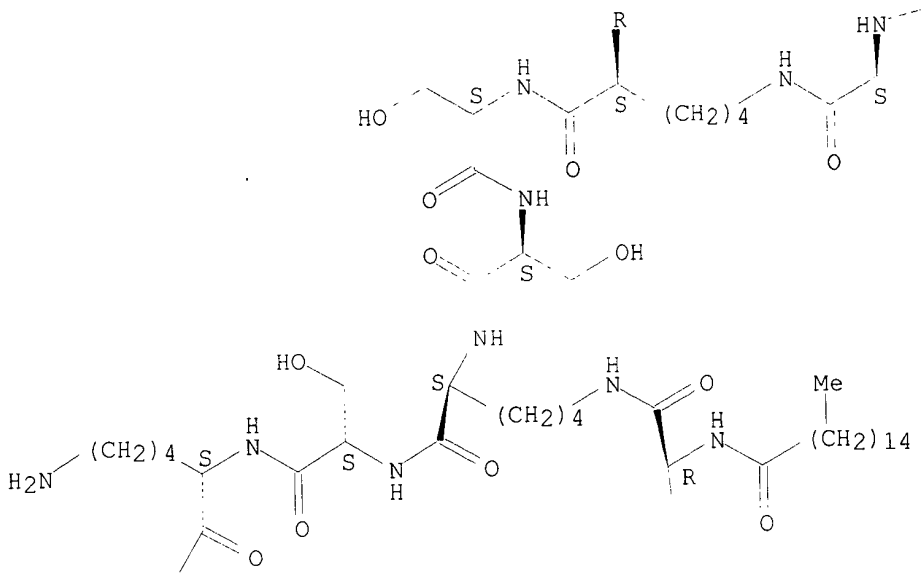
SEQ 1 K

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C119 H214 N20 O29 S

SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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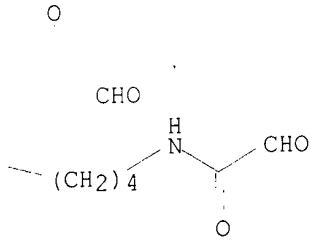

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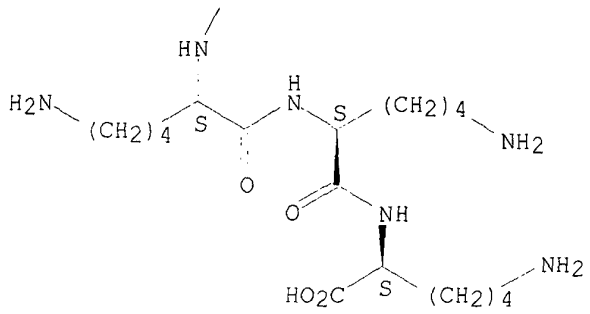

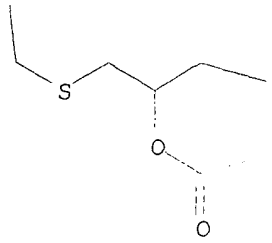

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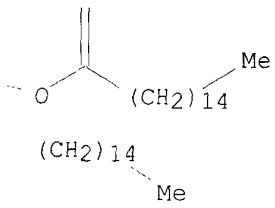

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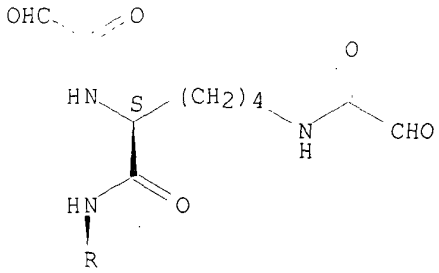


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 19 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **175789-69-2** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[N2-[N-[N-[N2,N6-bis(N2,N6-di-L-seryl-L-lysyl)-L-lysyl]-L-seryl]-L-seryl]-N6-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-lysyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-(9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 16,11,2,1,1,1
NTE multichain
modified (modifications unspecified)

type	------ location ------	description
bridge	Lys-2 - Ser-1'''	amide bridge
bridge	Lys-3 - Lys-2'	amide bridge
bridge	Lys-6 - Cys-1''	amide bridge
bridge	Lys-2' - Ser-1[4']	amide bridge

SEQ 1 SKKSSKSKKK K

HITS AT: 7-10

SEQ 1 SK

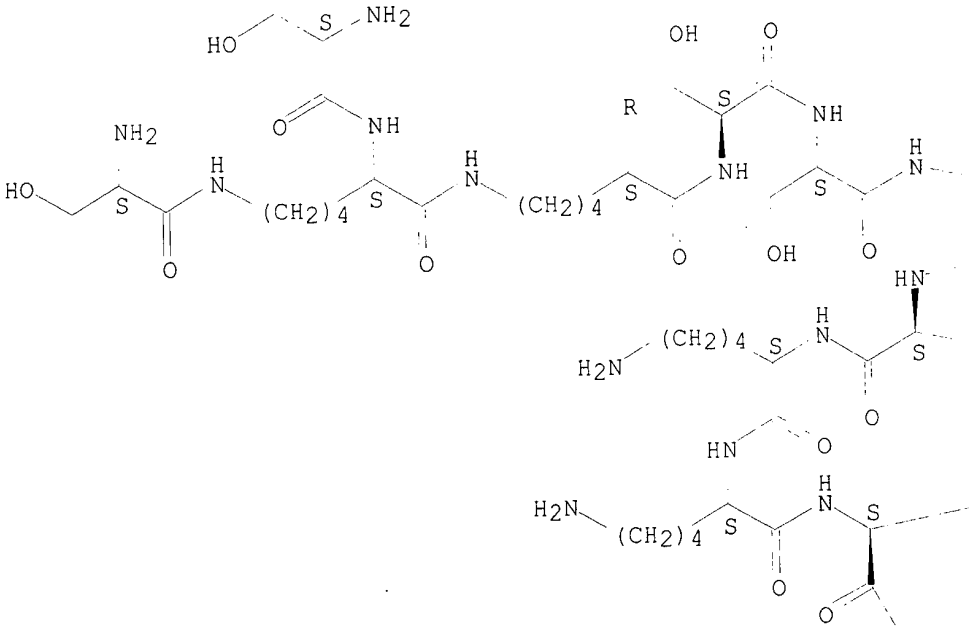
SEQ 1 C.

SEQ 1 S

SEQ 1 S
MF C123 H234 N24 O29 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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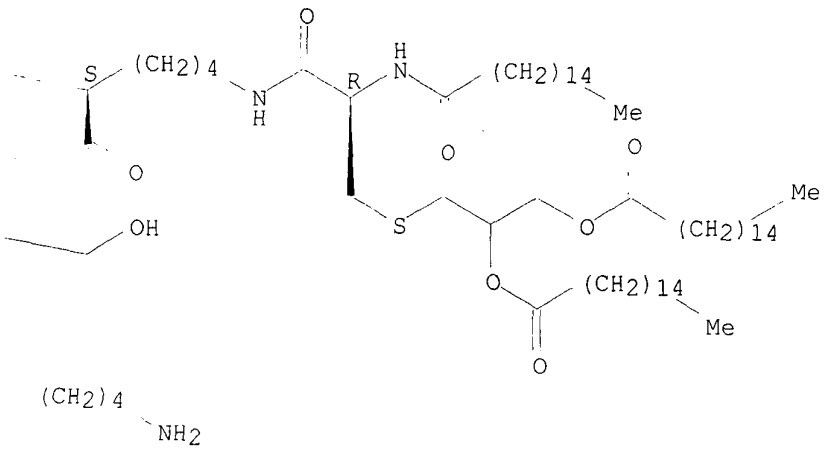

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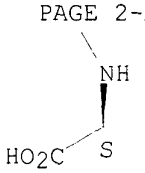

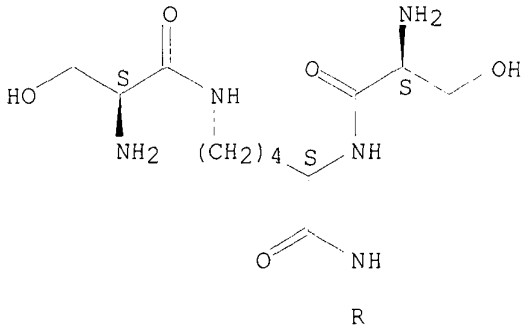

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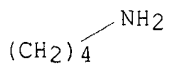


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 20 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **161515-27-1** REGISTRY
CN L-Leucine, N-[6-[[6-[[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysylglycylglycyl-L-tyrosyl-L-asparaginyl-L-arginyl-L-asparaginyl-L-alanyl-L-valyl-L-prolyl-L-asparaginyl-L-leucyl-L-arginylglycyl-L-.alpha.-aspartyl-L-leucyl-L-glutaminyl-L-valyl-L-leucyl-L-alanyl-L-glutaminyl-L-lysyl-L-valyl-L-alanyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-L-threonyl-L-.alpha.-glutamyl-L-alanyl-L-arginyl-L-histidyl-L-lysyl-L-glutaminyl-L-lysyl-L-isoleucyl-L-valyl-L-alanyl-L-prolyl-L-valyl-L-lysyl-L-glutaminyl-L-threonyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 48
NTE modified (modifications unspecified)

type	location		description
uncommon	Oaa-30	-	-
uncommon	Oaa-31	-	-

SEQ 1 CSKKKKGGYN RNAVPNLRGD LQVLAQKVAX XTEARHKQKI VAPVKQTL
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C285 H502 N74 O69 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

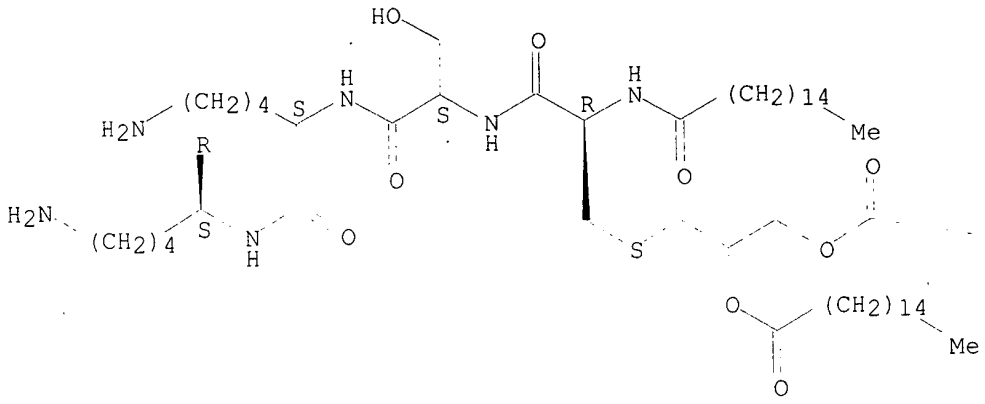
L41 ANSWER 21 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **161220-71-9** REGISTRY
CN Glycine, N-[N-[N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-L-lysyl]glycyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 8
NTE modified

type	location		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKKGG
====
HITS AT: 2-5
MF C85 H162 N12 O15 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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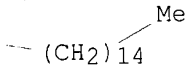

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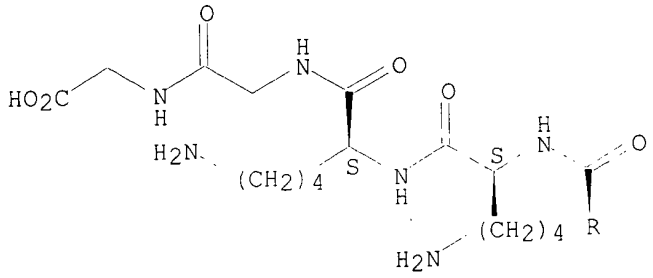

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 22 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **156260-10-5** REGISTRY
CN L-Alanine, L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl-.beta.-alanyl-N6-(L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl)-L-lysyl-.beta.-alanyl-N6-[L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-

prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl-.beta.-alanyl-N6-(L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl)-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-(1-oxohexadecyl)-D-lysyl-N6-(1-oxohexadecyl)-L-lysyl-N6-(1-oxohexadecyl)-D-lysyl-N6-(1-oxohexadecyl)-L-lysyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE
SQL 85,29,20,18,18
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Lys-20	- Lys-18''	amide bridge
bridge	Lys-22	- Lys-20'	amide bridge
bridge	Lys-20'	- Lys-18'''	amide bridge
uncommon	Bal-19	-	-
uncommon	Bal-21	-	-
uncommon	Bal-19'	-	-
stereo	Lys-25	-	D
stereo	Lys-27	-	D

SEQ 1 KSIRIQRGPG RAFVTIGKXK XKSSKKKKA
==== ====

HITS AT: 24-27

SEQ 1 KSIRIQRGPG RAFVTIGKXK

SEQ 1 KSIRIQRGPG RAFVTIGK

SEQ 1 KSIRIQRGPG RAFVTIGK
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 23 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **156260-09-2** REGISTRY
CN L-Alanine, L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl-.beta.-alanyl-N6-(L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl)-L-lysyl-.beta.-alanyl-N6-[L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl-.beta.-alanyl-N6-(L-lysyl-L-seryl-L-isoleucyl-L-arginyl-L-isoleucyl-L-glutaminyl-L-arginylglycyl-L-prolylglycyl-L-arginyl-L-alanyl-L-phenylalanyl-L-valyl-L-threonyl-L-isoleucylglycyl-L-lysyl)-L-lysyl]-L-lysyl-L-seryl-L-seryl-N6-(1-oxohexadecyl)-L-lysyl-N6-(1-oxohexadecyl)-D-lysyl-N6-(1-oxohexadecyl)-L-lysyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 84,28,20,18,18
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Lys-20	- Lys-18''	amide bridge

bridge	Lys-22	- Lys-20'	amide bridge
bridge	Lys-20'	- Lys-18'''	amide bridge
uncommon	Bal-19	-	-
uncommon	Bal-21	-	-
uncommon	Bal-19'	-	-
stereo	Lys-26	-	D

SEQ 1 KSIRIQRGPG RAFVTIGKXK XKSSKKKA
==== ====

HITS AT: 24-27

SEQ 1 KSIRIQRGPG RAFVTIGKXK

SEQ 1 KSIRIQRGPG RAFVTIGK

SEQ 1 KSIRIQRGPG RAFVTIGK
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 24 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **155412-17-2** REGISTRY
CN L-Alanine, N-[N2-[N2-[N2-[N2-[N-[N-[(1,1-dimethylethoxy)carbonyl]-O-(phenylmethyl)-L-seryl]-O-(phenylmethyl)-L-seryl]-N6-(1-oxohexadecyl)-D-lysyl]-N6-(1-oxohexadecyl)-L-lysyl]-N6-(1-oxohexadecyl)-D-lysyl]-N6-(1-oxohexadecyl)-L-lysyl]-, methyl ester (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 7
NTE modified

type	------ location ------		description
modification	Ser-1	-	phenylmethyl<Bzl>
modification	Ser-1	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Ser-2	-	phenylmethyl<Bzl>
modification	Lys-3	-	1-oxohexadecyl<Pal>
modification	Lys-4	-	1-oxohexadecyl<Pal>
modification	Lys-5	-	1-oxohexadecyl<Pal>
modification	Lys-6	-	1-oxohexadecyl<Pal>

SEQ 1 SSKKKKA
====
HITS AT: 2-5
MF C117 H207 N11 O16
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

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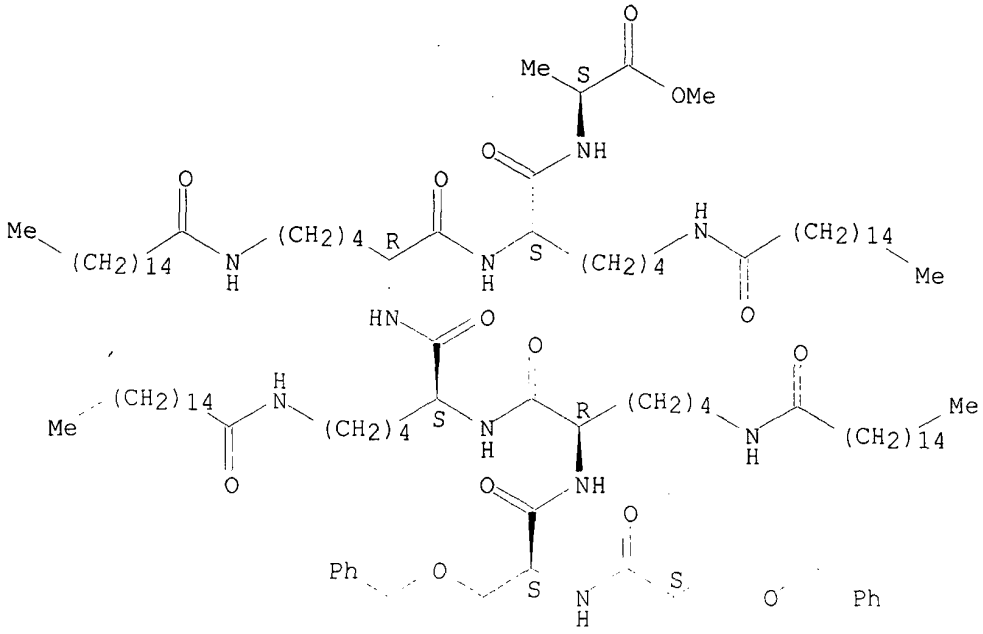

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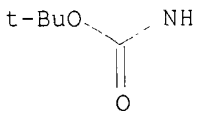


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 25 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **155412-16-1** REGISTRY
CN L-Alanine, N-[N2-[N2-[N2-[N-[N-[(1,1-dimethylethoxy)carbonyl]-O-(phenylmethyl)-L-seryl]-O-(phenylmethyl)-L-seryl]-N6-(1-oxohexadecyl)-L-lysyl]-N6-(1-oxohexadecyl)-D-lysyl]-N6-(1-oxohexadecyl)-L-lysyl]-, methyl ester (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified

type	location		description
modification	Ser-1	-	phenylmethyl<Bzl>
modification	Ser-1	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Ser-2	-	phenylmethyl<Bzl>
modification	Lys-3	-	1-oxohexadecyl<Pal>
modification	Lys-4	-	1-oxohexadecyl<Pal>
modification	Lys-5	-	1-oxohexadecyl<Pal>

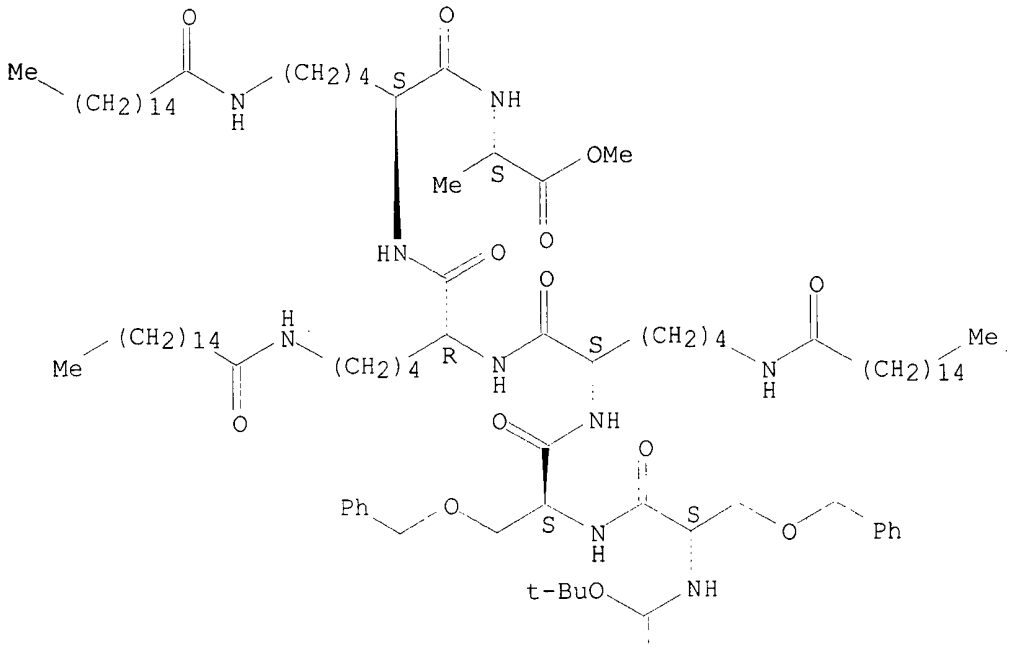
16

SEQ 1 SSKKKA

HITS AT: 2-5
MF C95 H165 N9 O14
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 26 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **155382-60-8** REGISTRY
CN L-Alanine, N-[N2-[N2-[N2-[N2-[N-[N-[N6-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N-[(1,1-dimethylethoxy)carbonyl]-.beta.-alanyl]-L-lysyl]-N2-[N-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N-[(1,1-dimethylethoxy)carbonyl]-.beta.-alanyl]-L-lysyl]-O-(phenylmethyl)-L-seryl]-O-(phenylmethyl)-L-seryl]-N6-(1-oxohexadecyl)-D-lysyl]-N6-(1-oxohexadecyl)-L-lysyl]-N6-(1-oxohexadecyl)-D-lysyl]-N6-(1-oxohexadecyl)-L-lysyl]-, methyl ester (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 13,11,2
NTE multichain
modified (modifications unspecified)

type	------ location ------	description

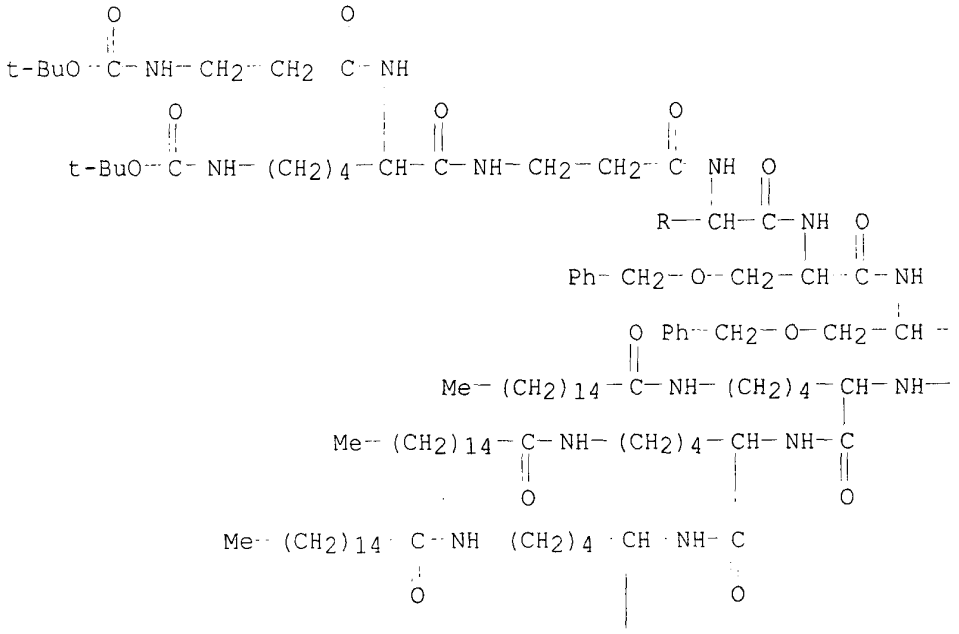
bridge	Lys-4	- Lys-2'	amide bridge
uncommon	Bal-1	-	-
uncommon	Bal-3	-	-
uncommon	Bal-1'	-	-
stereo	Lys-9	-	D

SEQ 1 XKXKSSKKKK A
==== =

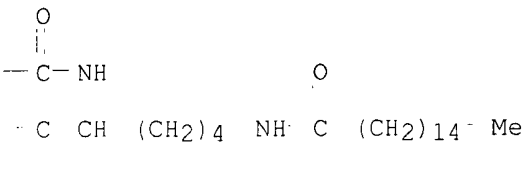
HITS AT: 6-9

SEQ 1 XK
MF C159 H282 N20 O28
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

PAGE 1-A



PAGE 1-B



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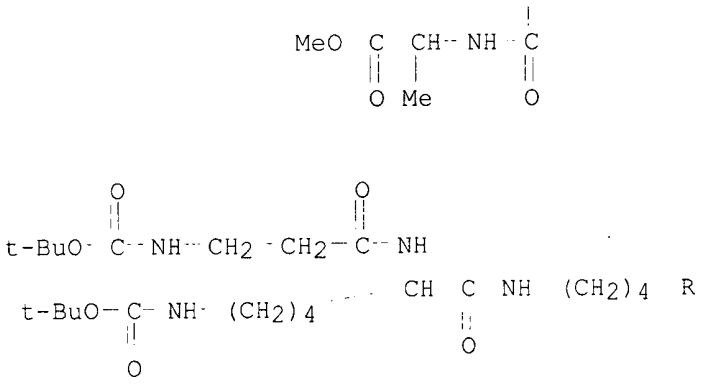


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 27 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **155382-59-5** REGISTRY
CN L-Alanine, N-[N2-[N2-[N2-[N-[N-[N6-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N-[(1,1-dimethylethoxy)carbonyl]-.beta.-alanyl]-L-lysyl]-N2-[N-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N-[(1,1-dimethylethoxy)carbonyl]-.beta.-alanyl]-L-lysyl]-O-(phenylmethyl)-L-seryl]-O-(phenylmethyl)-L-seryl]-N6-(1-oxohexadecyl)-L-lysyl]-N6-(1-oxohexadecyl)-D-lysyl]-N6-(1-oxohexadecyl)-L-lysyl]-, methyl ester (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 12,10,2
NTE multichain
modified (modifications unspecified)

type	------ location ------		description
bridge	Lys-4	- Lys-2'	amide bridge
uncommon	Bal-1	-	-
uncommon	Bal-3	-	-
uncommon	Bal-1'	-	-

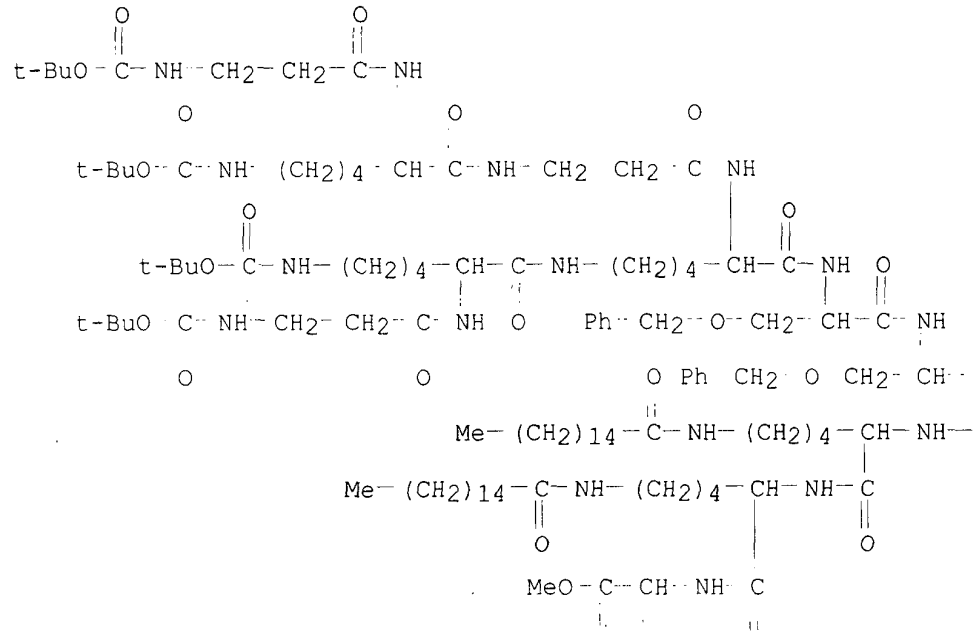
stereo Lys-8 - D

SEQ 1 XKXKSSKKKA

HITS AT: 6-9

SEQ 1 XK
MF C137 H240 N18 O26
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

PAGE 1-A



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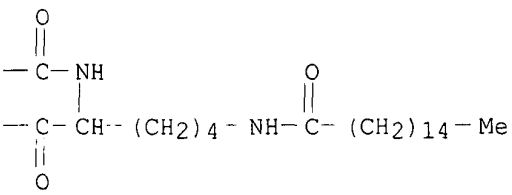

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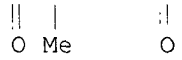


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 28 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **151936-20-8** REGISTRY
CN L-Leucine, N-[N-[N-[N-[N-[N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-L-lysyl]-L-tyrosyl]glycyl]glycyl]-L-phenylalanyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 11
NTE modified

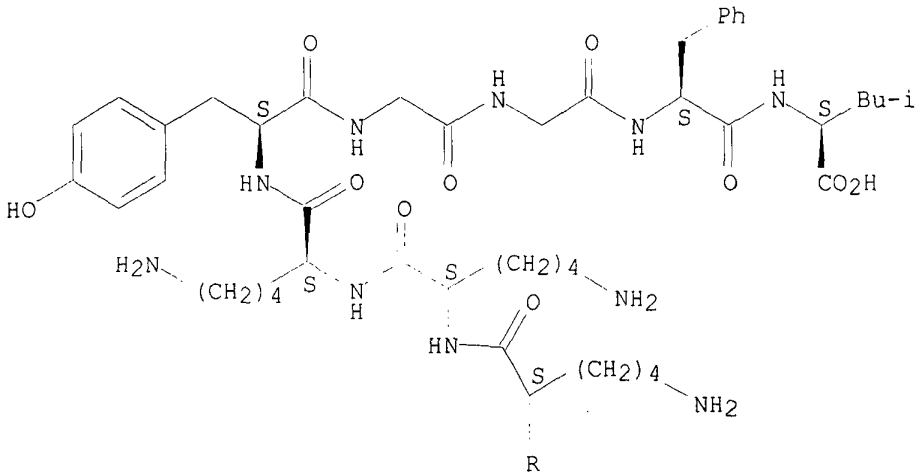
type	location	description
modification	Cys-1 -	1-oxohexadecyl<Pal>
modification	Cys-1 -	undetermined modification

SEQ 1 CSKKKKYGGF L

HITS AT: 2-5
MF C109 H191 N15 O19 S
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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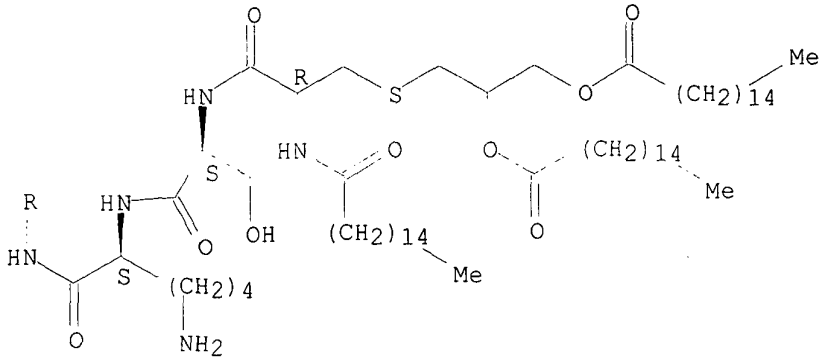


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

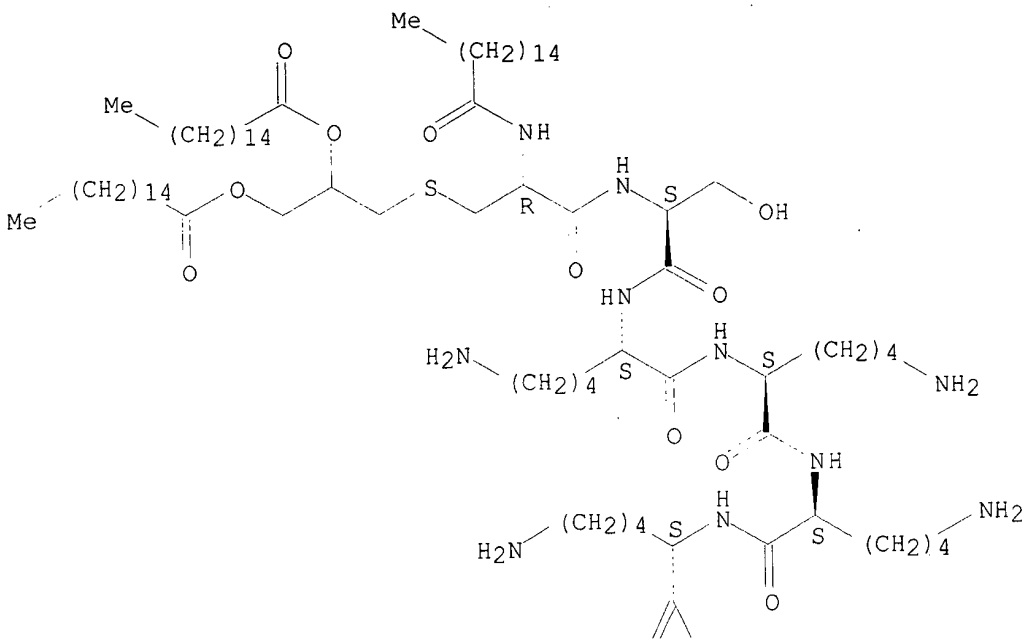
L41 ANSWER 29 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **151936-19-5** REGISTRY
CN L-Glutamine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-arginyl-L-prolyl-L-glutaminyl-L-alanyl-L-seryl-L-valyl-L-tyrosyl-L-methionyl-L-asparaginyl-L-leucyl-L-threonyl-L-alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 19
NTE modified

type	------ location ------		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKKRPQA SVYMNLTAQ
====
HITS AT: 2-5
MF C144 H257 N29 O32 S2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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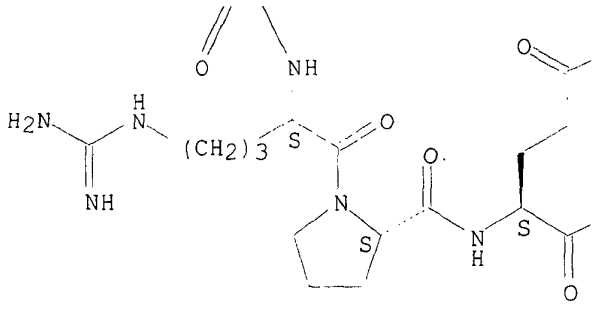

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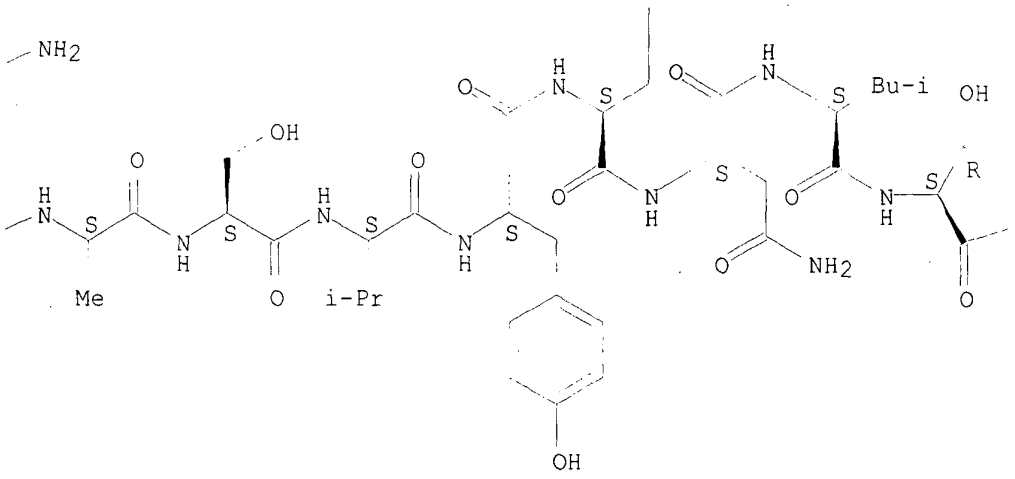
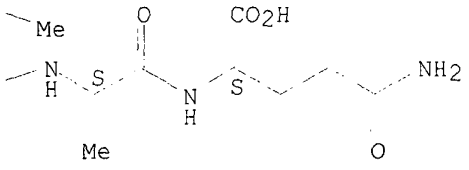


PAGE 2-C



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 30 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **151936-18-4** REGISTRY
CN L-Glutamine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-arginyl-L-prolyl-L-glutaminyl-L-alanyl-L-serylglycyl-L-valyl-L-tyrosyl-L-methionylglycyl-L-asparaginyl-L-leucyl-L-threonyl-L-alanyl- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH

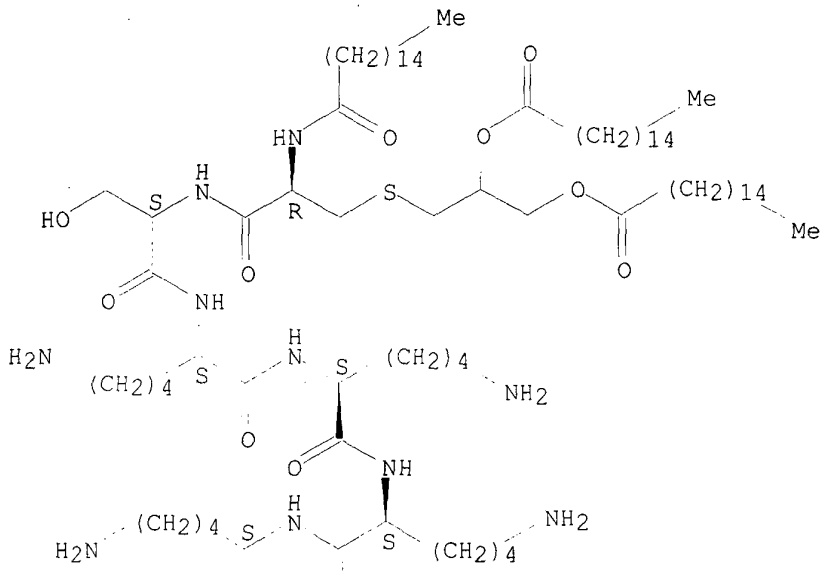
SQL 21
NTE modified

type	location		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKKRPQA SGVYMGNLTA Q
====
HITS AT: 2-5
MF C148 H263 N31 O34 S2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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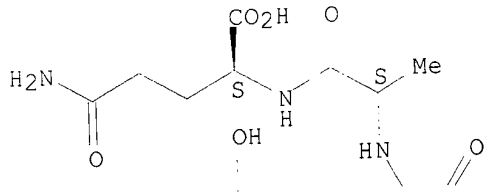

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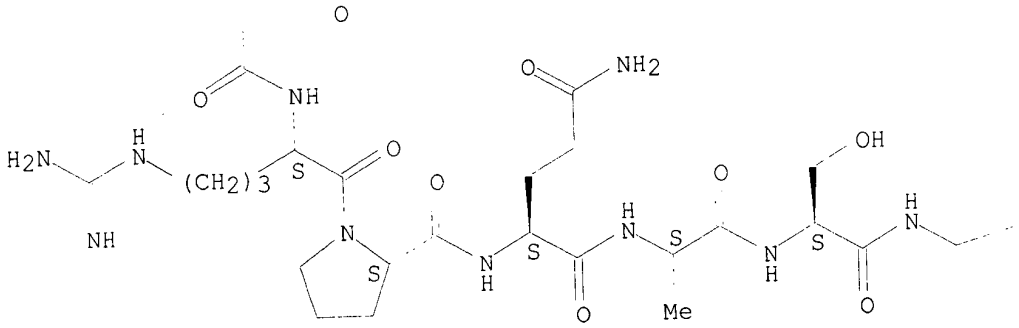

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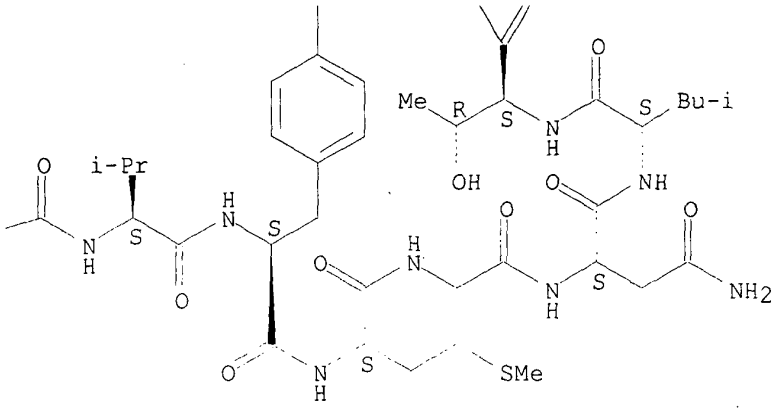


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 31 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **147414-36-6** REGISTRY
CN L-Leucine, N-[6-[[6-[[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysylglycylglycyl-L-tyrosyl-L-asparaginyl-L-arginyl-L-asparaginyl-L-alanyl-L-valyl-L-prolyl-L-asparaginyl-L-leucyl-L-arginylglycyl-L-.alpha.-aspartyl-L-leucyl-L-glutaminyl-L-valyl-L-leucyl-L-alanyl-L-glutaminyl-L-lysyl-L-valyl-L-alanyl]amino]-1-oxohexyl]amino]-1-oxohexyl]-L-threonyl-L-.alpha.-glutamyl-L-alanyl-L-arginyl-L-histidyl-L-lysyl-L-glutaminyl-L-lysyl-L-isoleucyl-L-valyl-L-alanyl-L-prolyl-L-valyl-L-lysyl-L-glutaminyl-L-threonyl-, (R)- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 48
NTE modified (modifications unspecified)

type	------ location ------		description
uncommon	Oaa-30	-	-
uncommon	Oaa-31	-	-

SEQ 1 CSKKKKGGYN RNAVPNLRGD LQVLAQKVAX XTEARHKQKI VAPVKQTL
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C285 H502 N74 O69 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 32 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **147414-02-6** REGISTRY
CN L-Lysine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysyl-L-arginyl-L-tyrosyl-L-asparaginyl-L-arginyl-L-asparaginyl-L-alanyl-L-valyl-L-prolyl-L-asparaginyl-L-leucyl-L-arginylglycyl-L-.alpha.-aspartyl-L-leucyl-L-glutaminyl-L-valyl-L-leucyl-L-alanyl-L-glutaminyl-, (R)- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE
SQL 26
NTE modified (modifications unspecified)

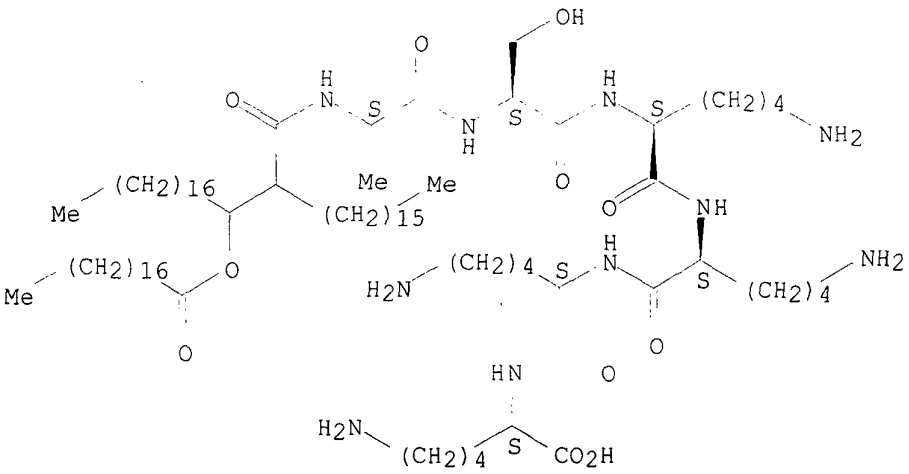
SEQ 1 CSKKKKRYNR NAVPNLRGDL QVLAQK
====
HITS AT: 2-5
MF C181 H323 N45 O41 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 33 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **139470-64-7** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[N-[2-hexadecyl-1-oxo-3-[(1-oxooctadecyl)oxy]eicosyl]-L-alanyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-(9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified

type	------ location ------		description
modification	Ala-1	-	undetermined modification

SEQ 1 ASKKKK
====
HITS AT: 2-5
MF C84 H164 N10 O11
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 34 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **139470-63-6** REGISTRY

CN L-Lysine, N2-[N2-[N2-[N2-[N-[2-[(1-oxohexadecyl)amino]-7-[(1-oxohexadecyl)oxy]-6-[[(1-oxohexadecyl)oxy]methyl]-1-oxoheptyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, (S)- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE

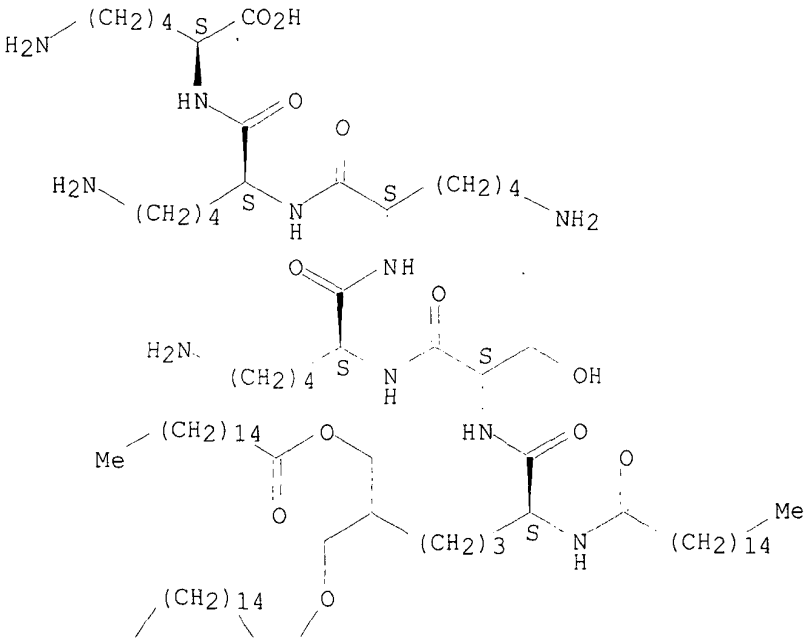
type	------ location ------		description
uncommon	Aaa-1	-	-

SEQ 1 XSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C83 H160 N10 O13
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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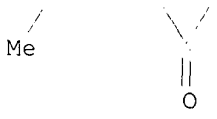

4 REFERENCES IN FILE CA (1957 TO DATE)
4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 35 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **134001-87-9** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[1-oxo-2-[(1-oxohexadecyl)amino]-6,7-bis[(1-oxohexadecyl)oxy]heptyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, [S-(R*,R*)]-, tris(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
uncommon	Aaa-1	-	-

SEQ 1 XSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C82 H158 N10 O13 . 3 C2 H F3 O2
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)

CM 1

CRN 133933-85-4
CMF C82 H158 N10 O13

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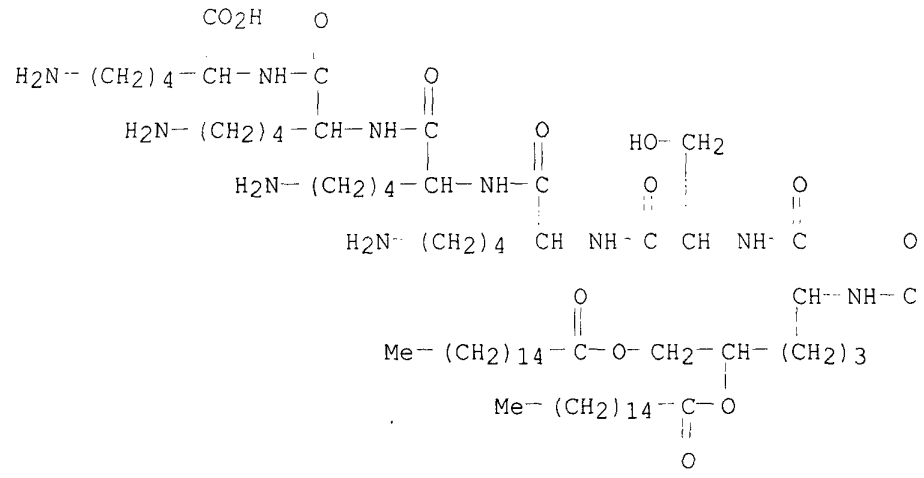
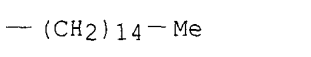
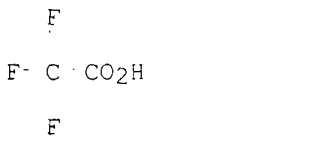




CM 2

CRN 76-05-1
CMF C2 H F3 O2



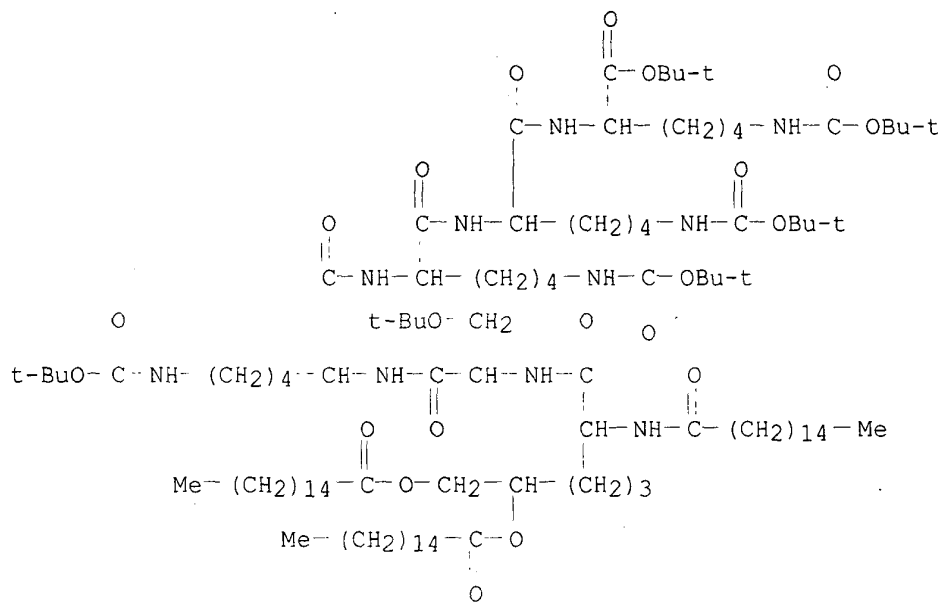
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 36 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133933-88-7** REGISTRY
CN L-Lysine, N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[O-(1,1-dimethylethyl)-N-[1-oxo-2-[(1-oxohexadecyl)amino]-6,7-bis[(1-oxohexadecyl)oxy]heptyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, 1,1-dimethylethyl ester, [S-(R*,R*)]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE *modified (modifications unspecified)*

type	------ location ------		description
uncommon	Aaa-1	-	-

SEQ 1 XSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C110 H206 N10 O21
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

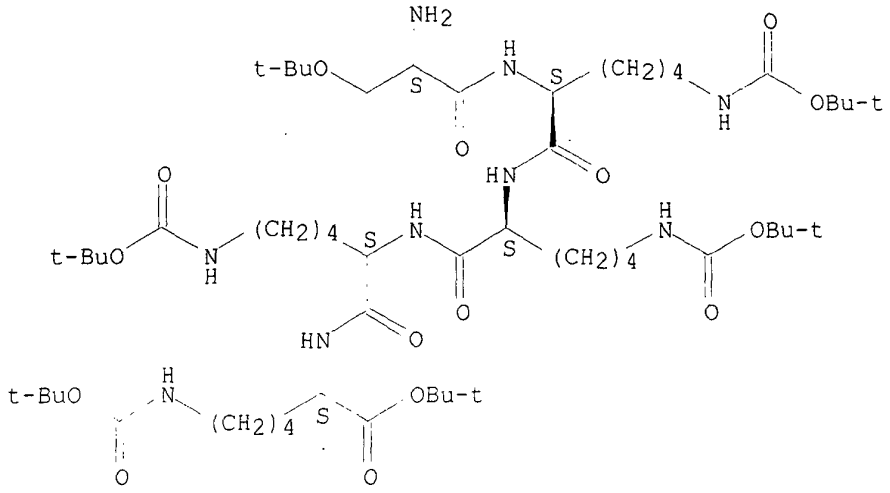
L41 ANSWER 37 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133933-87-6** REGISTRY
CN L-Lysine, N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[O-(1,1-dimethylethyl)-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 5
NTE modified (modifications unspecified)

type	location		description
modification	Ser-1	-	1,1-dimethylethyl<t-Bu>
modification	Lys-2	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Lys-3	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Lys-4	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Lys-5	-	(1,1-dimethylethoxy) carbonyl<Boc>

SEQ 1 SKKKK
====
HITS AT: 1-4

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C55 H103 N9 O15
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

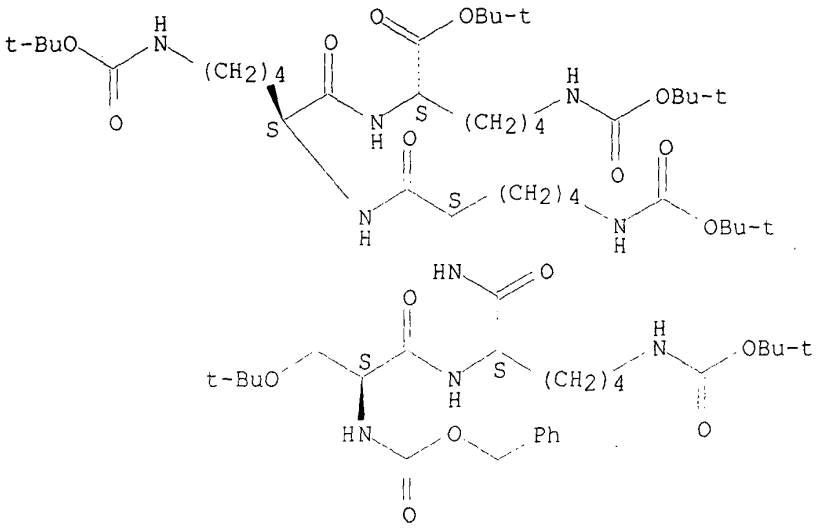
L41 ANSWER 38 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133933-86-5** REGISTRY
CN L-Lysine, N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[N6-[(1,1-dimethylethoxy)carbonyl]-N2-[O-(1,1-dimethylethyl)-N-[(phenylmethoxy)carbonyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 5
NTE modified (modifications unspecified)

type	------ location ------		description
modification	Ser-1	-	1,1-dimethylethyl<t-Bu>
modification	Ser-1	-	(phenylmethoxy)carbonyl<Z>
modification	Lys-2	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Lys-3	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Lys-4	-	(1,1-dimethylethoxy) carbonyl<Boc>
modification	Lys-5	-	(1,1-dimethylethoxy) carbonyl<Boc>

SEQ 1 SKKKK
====
HITS AT: 1-4

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C63 H109 N9 O17
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, TOXCENTER
(*File contains numerically searchable property data)

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

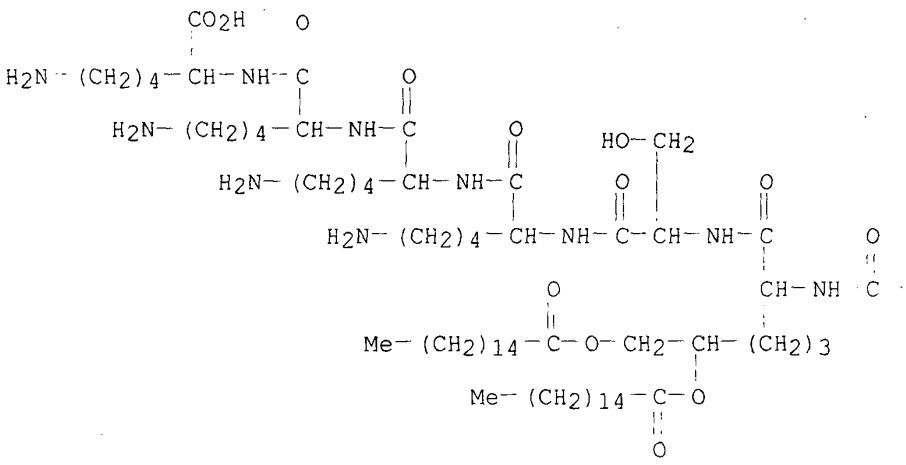
L41 ANSWER 39 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133933-85-4** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[1-oxo-2-[(1-oxohexadecyl)amino]-6,7-bis[(1-oxohexadecyl)oxy]heptyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, [S-(R*,R*)]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
uncommon	Aaa-1	-	-

SEQ 1 XSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C82 H158 N10 O13
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

PAGE 1-A



PAGE 1-B

3 REFERENCES IN FILE CA (1957 TO DATE)
3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

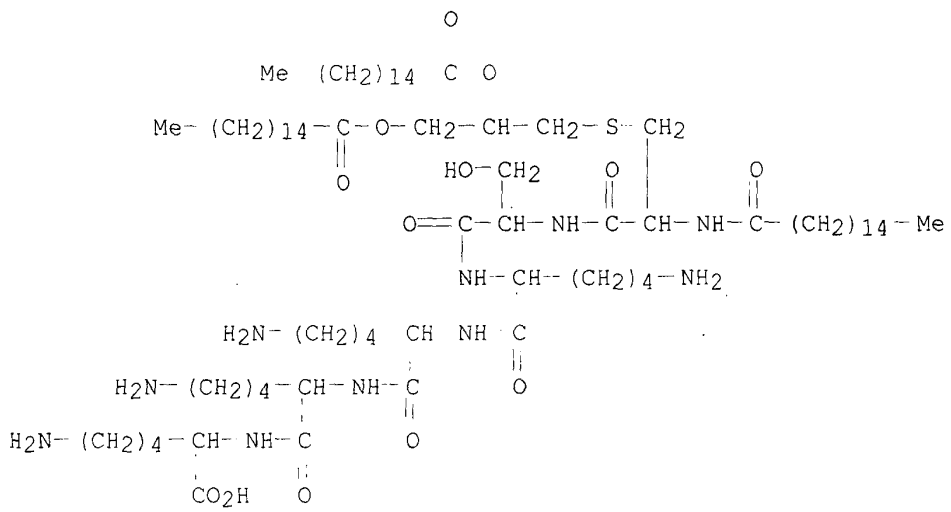
L41 ANSWER 40 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133004-65-6** REGISTRY
CN L-Lysine, S-[(2S)-2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-, trihydrochloride (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, trihydrochloride, (S)-
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	-	-	undetermined modification
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C81 H156 N10 O13 S . 3 Cl H
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
CRN (132957-10-9)

PAGE 1-A



PAGE 2-A

●3 HCl

2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 41 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133004-64-5** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, trihydrochloride, (R)- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

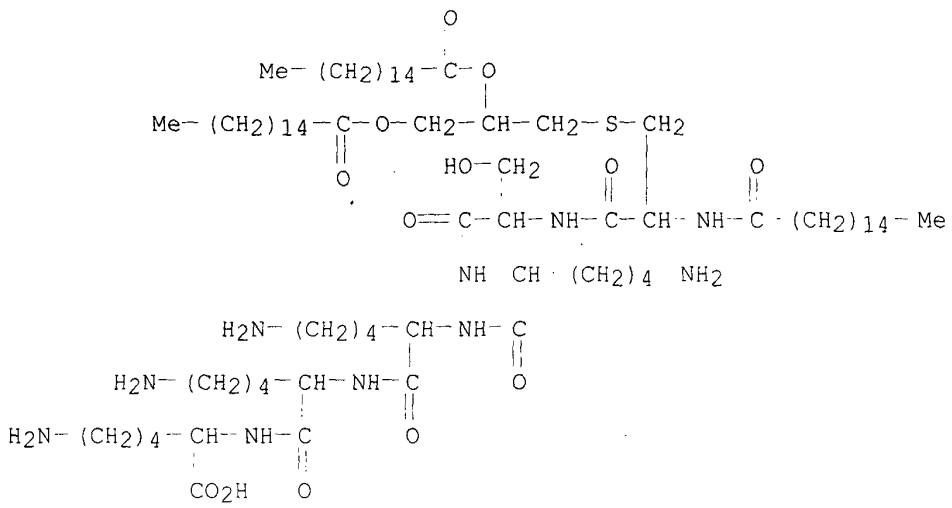
type	location		description
modification	-	-	undetermined modification
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK

MF C81 H156 N10 O13 S . 3 Cl H
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
CRN (132957-09-6)

PAGE 1-A



PAGE 2-A

●3 HCl

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 42 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133004-63-4** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, (S)-, tris(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

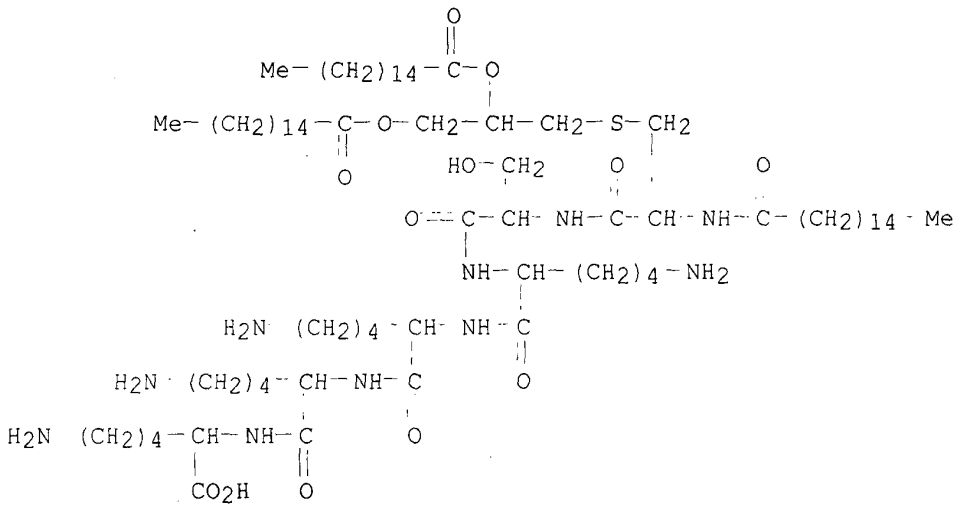
type	------ location ------		description
modification	-	-	undetermined modification
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C81 H156 N10 O13 S . 3 C2 H F3 O2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

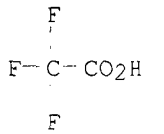
CM 1

CRN 132957-10-9
CMF C81 H156 N10 O13 S



CM 2

CRN 76-05-1
CMF C2 H F3 O2



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 43 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **133004-62-3** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, (R)-, tris(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

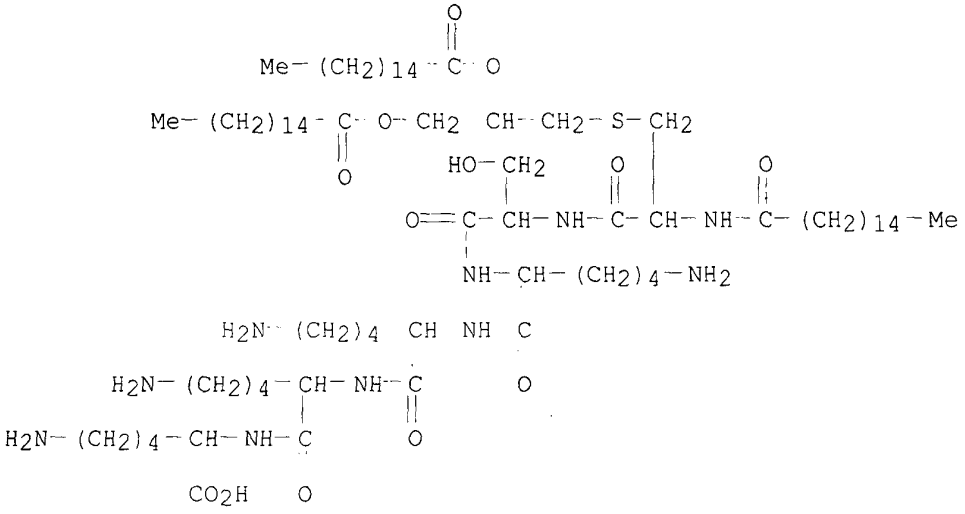
type	location	description
modification	-	undetermined modification
modification	Cys-1	1-oxohexadecyl<Pal>
modification	Cys-1	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C81 H156 N10 O13 S . 3 C2 H F3 O2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

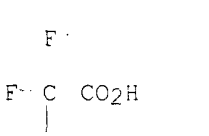
CM 1

CRN 132957-09-6
CMF C81 H156 N10 O13 S



CM 2

CRN 76-05-1
CMF C2 H F3 O2



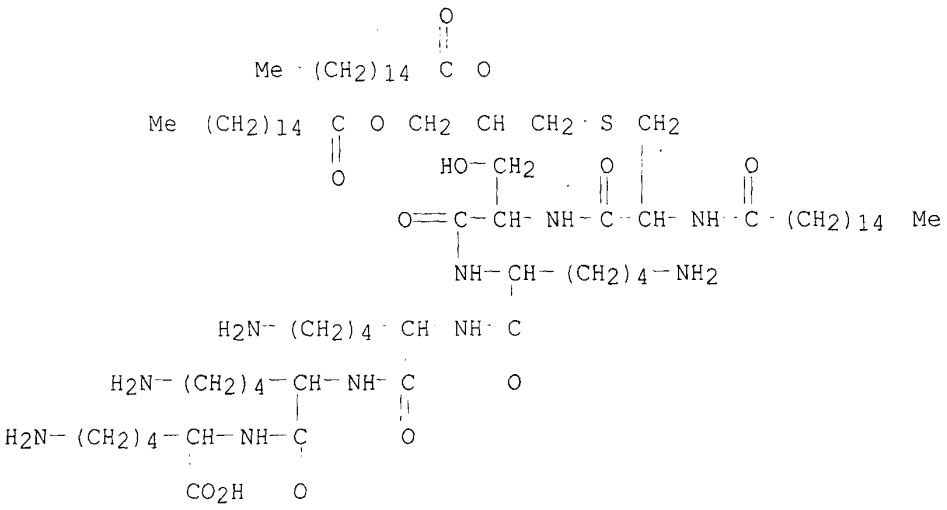
1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 44 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **132957-10-9** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, (S)- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C81 H156 N10 O13 S
CI COM
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

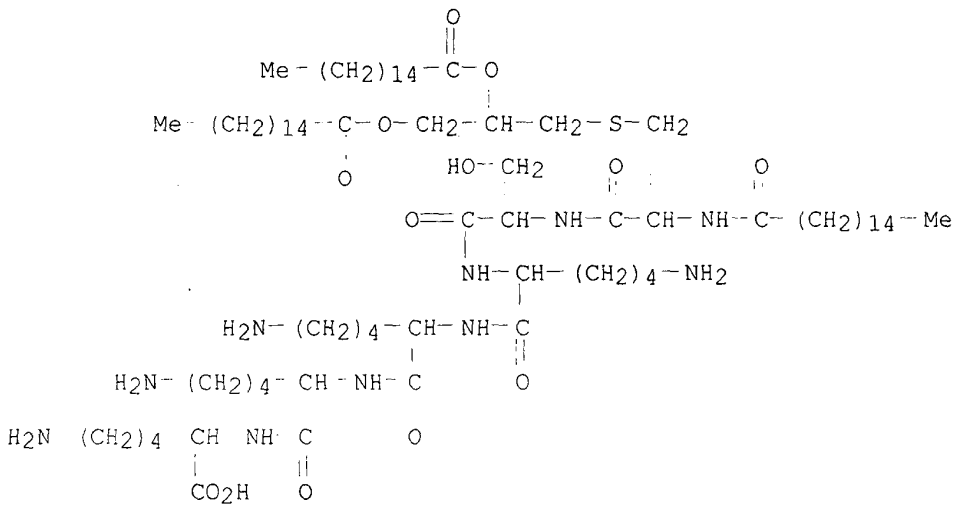
L41 ANSWER 45 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **132957-09-6** REGISTRY
CN L-Lysine, S-[(2R)-2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, (R)-
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C81 H156 N10 O13 S
CI COM
SR CA

LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER



5 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 46 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **129992-06-9** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[1,2-bis[(1-oxohexadecyl)oxy]ethyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified (modifications unspecified)

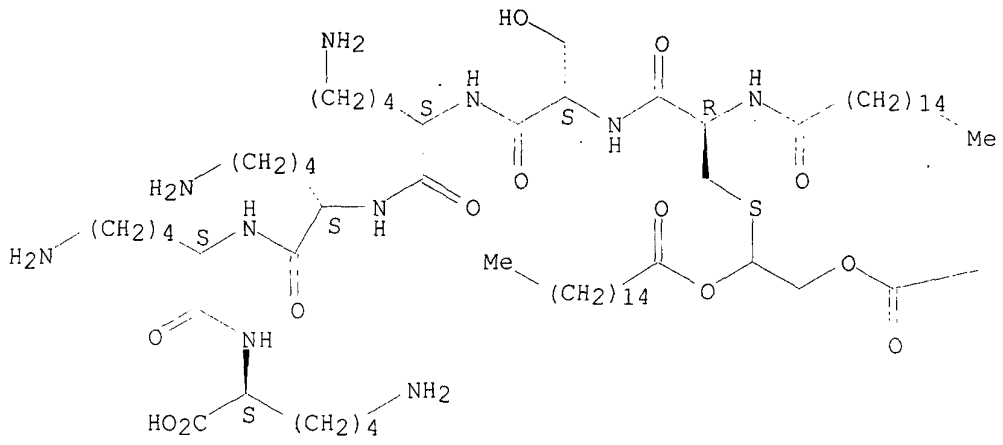
type	location		description
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C80 H154 N10 O13 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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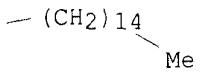


1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 47 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **128545-11-9** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-N6-(2,4-dinitrophenyl)-L-lysyl]-N6-(2,4-dinitrophenyl)-L-lysyl]-N6-(2,4-dinitrophenyl)-, mono(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	-	-	undetermined modification
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification
modification	Lys-4	-	2,4-dinitrophenyl<DNP>
modification	Lys-5	-	2,4-dinitrophenyl<DNP>
modification	Lys-6	-	2,4-dinitrophenyl<DNP>

SEQ 1 CSKKKK
====

HITS AT: 2-5

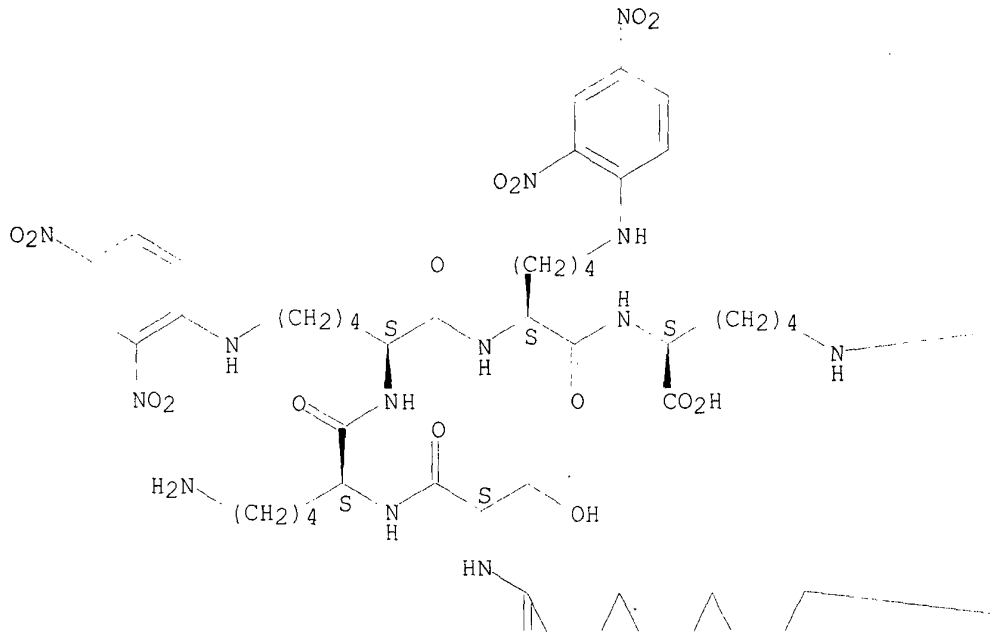
RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C99 H162 N16 O25 S . C2 H F3 O2
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

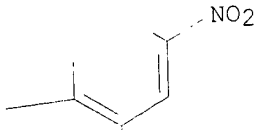
CRN 128545-10-8
CMF C99 H162 N16 O25 S

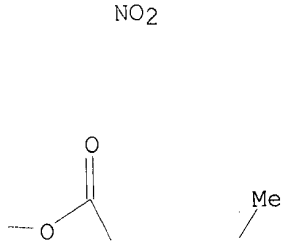
Absolute stereochemistry.

PAGE 1-A

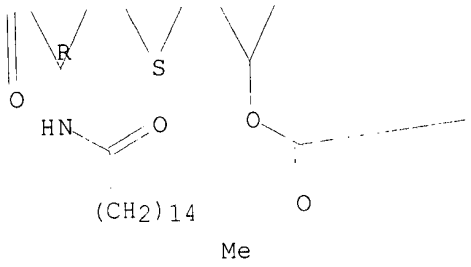


PAGE 1-B

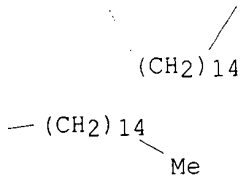




PAGE 2-A

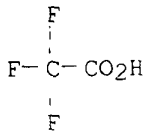


PAGE 2-B



CM 2

CRN 76-05-1
CMF C2 H F3 O2



1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 48 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **122219-56-1** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, tris(2,4-dinitrophenyl) deriv. (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE
SQL 6
NTE modified (modifications unspecified)

type	------ location ------		description
modification	-	-	undetermined modification
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Cys-1	-	undetermined modification

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C99 H162 N16 O25 S
CI IDS
SR CA
LC STN Files: CA, CAPLUS

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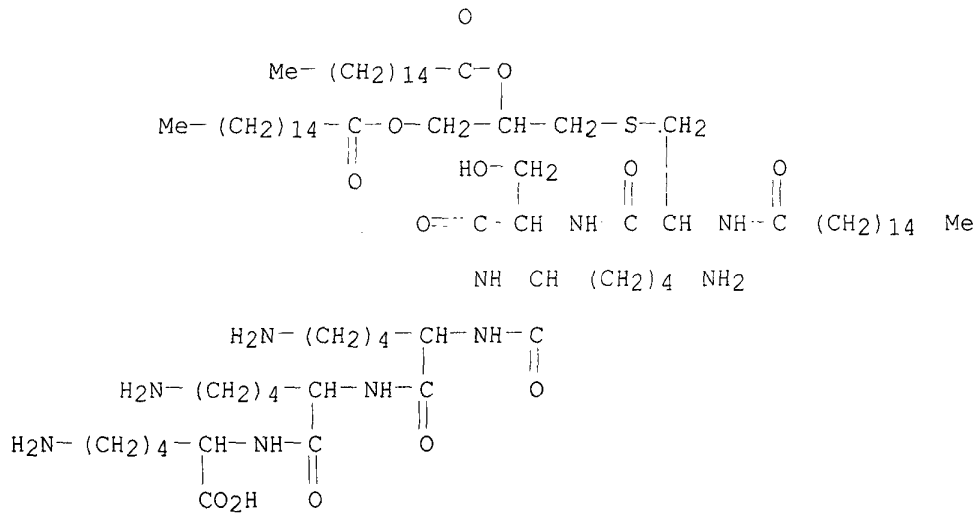
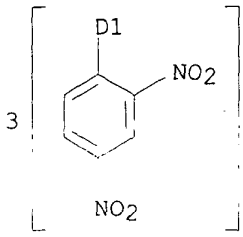




1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 49 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **122179-32-2** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-N6-(2,4-dinitrophenyl)-L-lysyl]-N6-(2,4-dinitrophenyl)-L-lysyl]-N6-(2,4-dinitrophenyl)-L-lysyl]-N6-(2,4-dinitrophenyl)- (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
SQL 6
NTE modified (modifications unspecified)

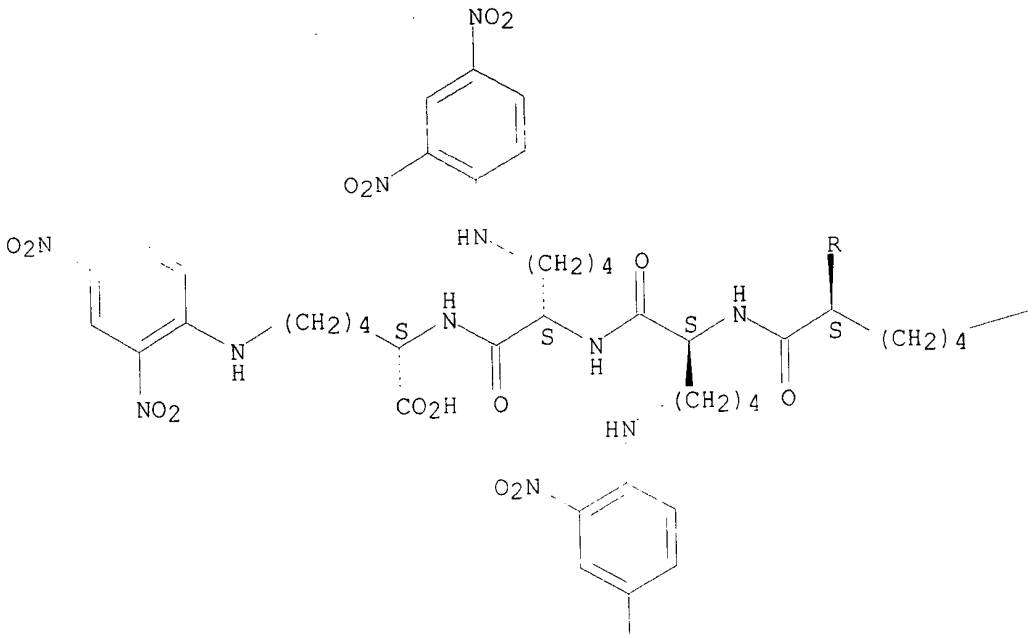
type	------ location ------		description
modification	Cys-1	-	undetermined modification
modification	Cys-1	-	1-oxohexadecyl<Pal>
modification	Lys-3	-	2,4-dinitrophenyl<DNP>
modification	Lys-4	-	2,4-dinitrophenyl<DNP>
modification	Lys-5	-	2,4-dinitrophenyl<DNP>
modification	Lys-6	-	2,4-dinitrophenyl<DNP>

SEQ 1 CSKKKK
====
HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
MF C105 H164 N18 O29 S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



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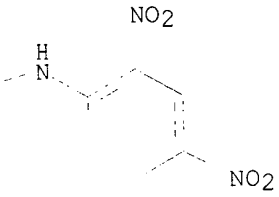

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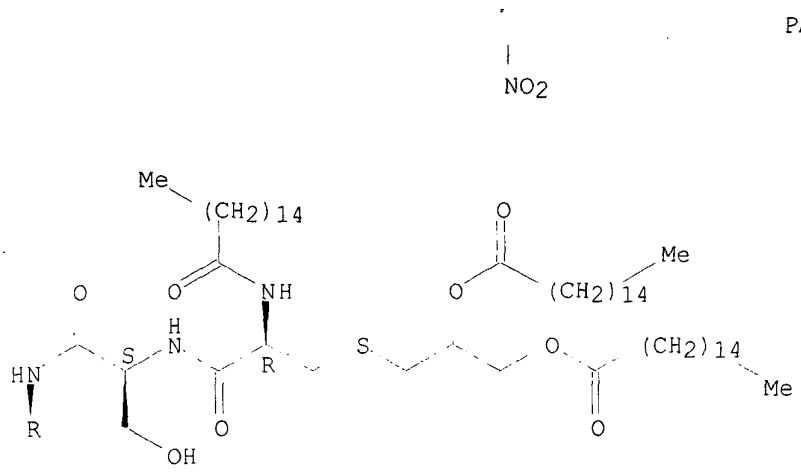

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 50 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **112208-04-5** REGISTRY
CN L-Lysine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-, trihydrochloride (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
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modification	Cys-1	undetermined modification

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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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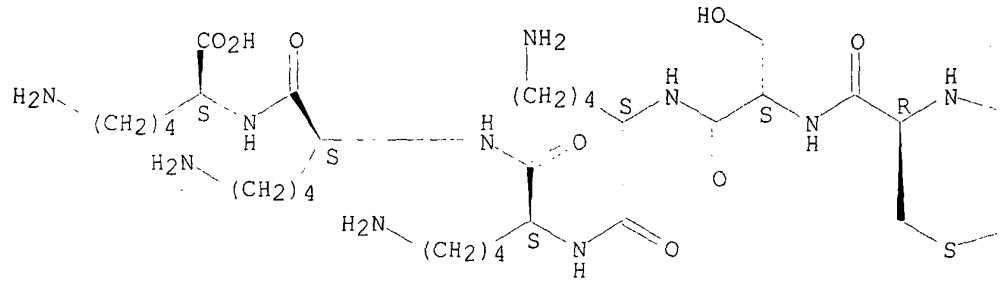
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
CRN (112208-00-1)

Absolute stereochemistry.

PAGE 1-A



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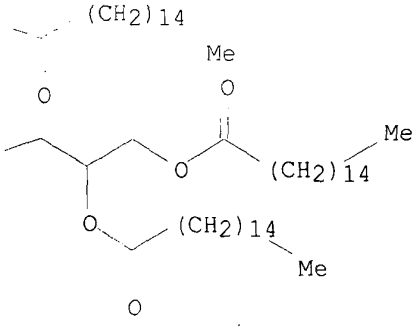
PAGE 1-B



2 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 51 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN 112208-02-3 REGISTRY
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SEQ 1 CSKKKK
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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

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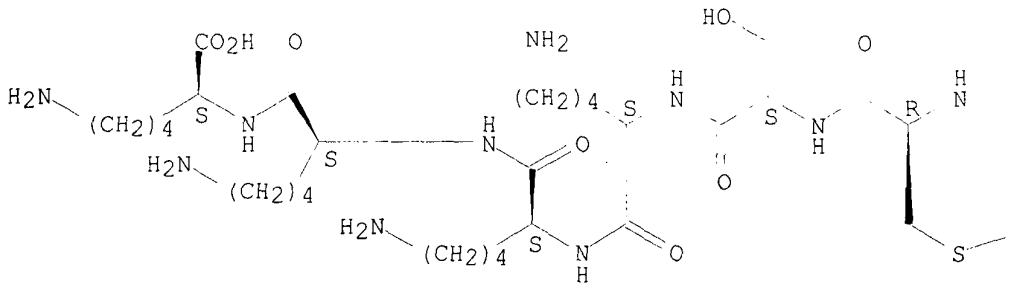
CRN 112208-00-1
CMF C81 H156 N10 O13 S

Absolute stereochemistry.

PAGE 1-A



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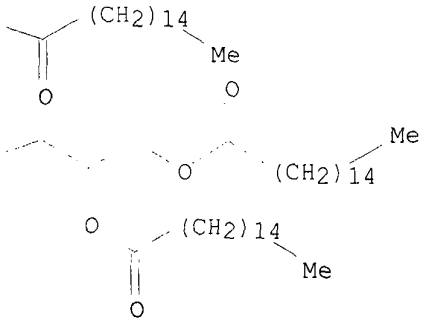

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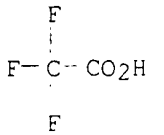

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1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 52 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN **112208-01-2** REGISTRY
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-, tris(trifluoroacetate) (salt) (9CI) (CA INDEX NAME)
FS PROTEIN SEQUENCE; STEREOSEARCH
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SEQ 1 CSKKKK
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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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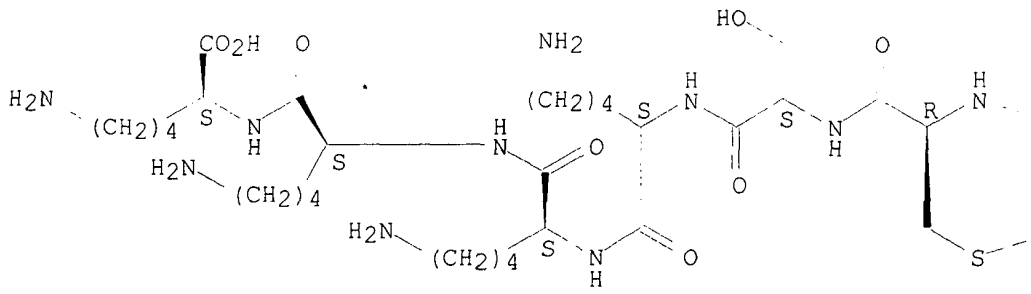
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL

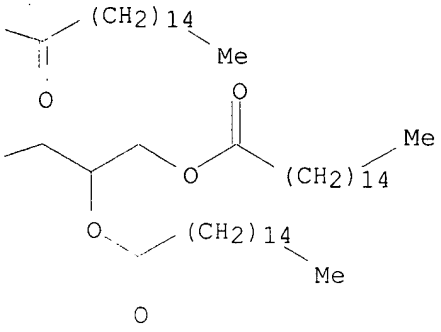
CM 1

CRN 112208-00-1
CMF C81 H156 N10 O13 S

Absolute stereochemistry.

PAGE 1-A





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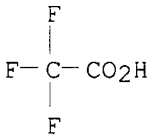

1 REFERENCES IN FILE CA (1957 TO DATE)
1 REFERENCES IN FILE CAPLUS (1957 TO DATE)

L41 ANSWER 53 OF 53 REGISTRY COPYRIGHT 2003 ACS
RN 112208-00-1 REGISTRY
CN L-Lysine, S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN L-Lysine, N2-[N2-[N2-[N2-[N-[S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl]-L-seryl]-L-lysyl]-L-lysyl]-L-lysyl]-
FS PROTEIN SEQUENCE; STEREOSEARCH
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modification	Cys-1	-	1-oxohexadecyl<Pal>
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SEQ 1 CSKKKK
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HITS AT: 2-5

RELATED SEQUENCES AVAILABLE WITH SEQLINK
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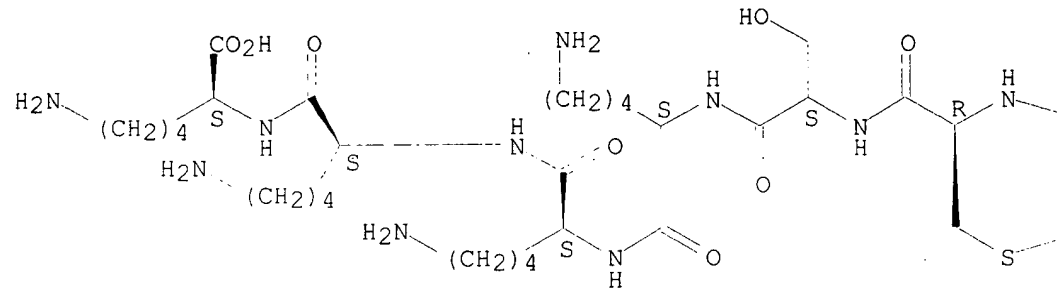
LC STN Files: CA, CANCERLIT, CAPLUS, MEDLINE, TOXCENTER

Absolute stereochemistry.

PAGE 1-A



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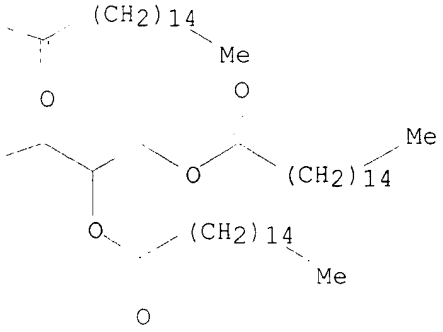

29 REFERENCES IN FILE CA (1957 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
29 REFERENCES IN FILE CAPLUS (1957 TO DATE)

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=> d ide can 13

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 57-10-3 REGISTRY
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OTHER CA INDEX NAMES:
CN **Palmitic acid (7CI, 8CI)**
OTHER NAMES:
CN 1-Pentadecanecarboxylic acid
CN Cetylic acid
CN Emersol 143
CN FA 1695
CN Hydrofol Acid 1690
CN Hystrene 9016
CN Kortacid 1698
CN Loxiol EP 278
CN Lunac P 95
CN Lunac P 95KC

CN n-Hexadecanoic acid
CN n-Hexadecoic acid
CN NAA 160
CN Neo-Fat 16
CN PA 900
CN Palmitinic acid
CN Pentadecanecarboxylic acid
CN Prifac 2960
FS 3D CONCORD
DR 60605-23-4, 66321-94-6, 116860-99-2, 212625-86-0
MF C16 H32 O2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Palmitic acid

$HO_2C-(CH_2)_{14}-Me$

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

33887 REFERENCES IN FILE CA (1957 TO DATE)
1212 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
33926 REFERENCES IN FILE CAPLUS (1957 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:411198

REFERENCE 2: 138:409903

REFERENCE 3: 138:409396

REFERENCE 4: 138:409335

REFERENCE 5: 138:406939

REFERENCE 6: 138:406627

REFERENCE 7: 138:406618

REFERENCE 8: 138:406593

REFERENCE 9: 138:406122

REFERENCE 10: 138:403339

Inventor Search

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 15:24:54 ON 20 JUN 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 20 Jun 2003 VOL 138 ISS 26
FILE LAST UPDATED: 19 Jun 2003 (20030619/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L14 17 SEA FILE=HCAPLUS ABB=ON PLU=ON ("MUHLRADT P F"/AU OR "MUHLRADT PETER F"/AU)

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L14 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:3257 HCAPLUS
DOCUMENT NUMBER: 138:88605
TITLE: Differential recognition of structural details of bacterial lipopeptides by toll-like receptors
AUTHOR(S): Morr, Michael; Takeuchi, Osamu; Akira, Shizuo; Simon, Markus M.; **Muhlradt, Peter F.**
CORPORATE SOURCE: Research Group Molecular Recognition of the Gesellschaft fur Biotechnologische Forschung, Braunschweig, Germany
SOURCE: European Journal of Immunology (2002), 32(12), 3337-3347
CODEN: EJIMAF; ISSN: 0014-2980
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The question which detailed structures of bacterial modulins det. their relative biol. activity and resp. host cell receptors was examd. with synthetic variants of mycoplasmal lipopeptides as model compds., as well as recombinant outer surface protein A (OspA) of Borrelia burgdorferi and lipoteichoic acid. Mouse fibroblasts bearing genetic deletions of various toll-like receptors (TLR) were the indicator cells to study receptor requirements, primary macrophages served to measure dose response. The following results were obtained: (i) the TLR system discriminates between modulins with three and those with two long-chain fatty acids in their lipid moiety, in that lipopeptides with three fatty acids were recognized

by TLR2, whereas those with two long-chain fatty acids and lipoteichoic acid required the addnl. cooperation with TLR6; (ii) substitution of the free N terminus of mycoplasmal lipopeptides with an acetyl or palmitoyl group decreased the specific activity; (iii) removal of one or both ester-bound fatty acids lowered the specific activity by five orders of magnitude or deleted biol. activity; (iv) oxidn. of the thioether group lowered the specific activity by at least four orders of magnitude. The implications of these findings for physiol. inactivation of lipopeptides and host-bacteria interactions in general are discussed.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:829325 HCAPLUS

TITLE: The Mycoplasma-derived lipopeptide MALP-2 is a potent mucosal adjuvant

AUTHOR(S): Rharbaoui, Faiza; Drabner, Birgit; Borsutzky, Stefan; Winckler, Urte; Morr, Michael; Ensoli, Barbara; **Muhlradt, Peter F.**; Guzman, Carlos A.

CORPORATE SOURCE: Vaccine Research Group, Division of Microbiology, GBF-German Research Center for Biotechnology, Braunschweig, D-38124, Germany

SOURCE: European Journal of Immunology (2002), 32(10), 2857-2865
CODEN: EJIMAF; ISSN: 0014-2980

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The adjuvanticity of MALP-2, a 2-kDa synthetic lipopeptide with macrophage-stimulatory activity, was evaluated in BALB/c mice using .beta.-galactosidase (.beta.-gal) as model antigen. When co-administered with .beta.-gal by either the intranasal (i.n.) or i.p. route, MALP-2 (0.5 .mu.g) was capable of increasing .beta.-gal-specific serum IgG titers by 675-3,560-fold (i.n.) and 64-128-fold (i.p.), resp., as compared to immunization with .beta.-gal alone. Using MALP-2, almost maximal IgG responses were already stimulated following the first immunization, and the IgG titers were similar to those obsd. using 10 .mu.g of cholera toxin B subunit (CTB) as adjuvant. The mucosal immune system was also effectively stimulated ($p<0.05$) when MALP-2 was administered by the i.n. route (36% and 23% of .beta.-gal-specific IgA in lung and vaginal lavages, resp.). The i.n. co-administration of MALP-2 stimulated a stronger cellular immune response than CTB, both in submandibular lymph nodes and spleen ($p<0.05$). The anal. of .beta.-gal-specific IgG isotypes and the profiles of cytokines secreted by in vitro re-stimulated cells showed that co-administration of MALP-2 triggered a dominant Th2-response pattern. A recruitment of B220+ and MAC-1+ cells with an up-regulated expression of MHC class I, CD80 (B7.1) and CD54 (ICAM-1) was obsd. in nasal assocd. lymphoid tissues from MALP-2 treated mice. Taken together, our results demonstrated that the synthetic lipopeptide MALP-2 represents a very promising adjuvant for the mucosal delivery of vaccine antigens.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:489723 HCAPLUS

DOCUMENT NUMBER: 137:91745

TITLE: In vivo effects of a synthetic 2-kilodalton macrophage-activating lipopeptide of Mycoplasma fermentans after pulmonary application

AUTHOR(S): Luhrmann, Anke; Deiters, Ursula; Skokowa, Julia; Hanke, Michaela; Gessner, Johannes E.; **Muhlradt, Peter F.**; Pabst, Reinhard; Tschernig, Thomas

CORPORATE SOURCE: Departments of Functional and Applied Anatomy, Medical

School of Hannover, Hannover, 30623, Germany
SOURCE: Infection and Immunity (2002), 70(7), 3785-3792
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mycoplasmas can cause interstitial pneumonias inducing crit. illness in humans and animals. Mycoplasma infections are characterized by an influx of neutrophils, followed by an accumulation of macrophages and lymphocytes. The present study deals with the question of which mycoplasmal components cause this host reaction. The mycoplasma-derived, macrophage-activating lipopeptide 2S-MALP-2 was used to mimic the sequelae of a mycoplasma infection. To this end, 2S-MALP-2 was intratracheally instilled into the lungs of Lewis rats, and the bronchoalveolar lavage cells were examd. at different times after different doses of 2S-MALP-2. Application of 2.5 .mu.g induced a pronounced leukocyte accumulation in the bronchoalveolar space. At 24 h after 2S-MALP-2 administration, the majority of leukocytes consisted of neutrophils, followed by macrophages, peaking on days 2 and 3. Lymphocyte nos., although amounting to only a few percent of the total bronchoalveolar lavage cells, also increased significantly, with maximal lymphocyte accumulation occurring by 72 h after instillation. The leukocyte count of the lung interstitium was increased on day 3 after treatment. After 10 days all investigated cell populations returned to control levels. Transient chemotactic activity for neutrophils was detected in the bronchoalveolar lavage fluid early after 2S-MALP-2 application, followed by monocyte chemoattractant protein-1 activity (MCP-1) in lung homogenates. MCP-1 was produced by bronchoalveolar lavage cells upon stimulation with 2S-MALP-2. Our data indicate that mycoplasmal lipoproteins and lipopeptides are probably the most relevant mycoplasmal components for the early host reaction. The primary target cells are likely to be the alveolar macrophages liberating chemokines, which attract further leukocytes.
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:832589 HCAPLUS
DOCUMENT NUMBER: 136:117118
TITLE: Lipopolysaccharide stimulates the MyD88-independent pathway and results in activation of IFN-regulatory factor 3 and the expression of a subset of lipopolysaccharide-inducible genes
AUTHOR(S): Kawai, Taro; Takeuchi, Osamu; Fujita, Takashi; Inoue, Jun-Ichiro; **Muhlradt, Peter F.**; Sato, Shintaro; Hoshino, Katsuaki; Akira, Shizuo
CORPORATE SOURCE: Department of Host Defense, Research Institute for Microbial Diseases and Core Research for Evolutional Science and Technology, Japan Science and Technology Corporation, Osaka University, Osaka, Japan
SOURCE: Journal of Immunology (2001), 167(10), 5887-5894
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bacterial lipopolysaccharide (LPS) triggers innate immune responses through Toll-like receptor (TLR) 4, a member of the TLR family that participates in pathogen recognition. TLRs recruit a cytoplasmic protein, MyD88, upon pathogen recognition, mediating its function for immune responses. Two major pathways for LPS have been suggested in recent studies, which are referred to as MyD88-dependent and -independent pathways. We report in this study the characterization of the MyD88-independent pathway via TLR4. MyD88-deficient cells failed to produce inflammatory cytokines in response to LPS, whereas they responded

to LPS by activating IFN-regulatory factor 3 as well as inducing the genes contg. IFN-stimulated regulatory elements such as IP-10. In contrast, a lipopeptide that activates TLR2 had no ability to activate IFN-regulatory factor 3. The MyD88-independent pathway was also activated in cells lacking both MyD88 and TNFR-assocd. factor 6. Thus, TLR4 signaling is composed of at least two distinct pathways, a MyD88-dependent pathway that is crit. to the induction of inflammatory cytokines and a MyD88/TNFR-assocd. factor 6-independent pathway that regulates induction of IP-10.

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:557379 HCAPLUS
DOCUMENT NUMBER: 135:256104
TITLE: Discrimination of bacterial lipoproteins by Toll-like receptor 6
AUTHOR(S): Takeuchi, Osamu; Kawai, Taro; **Muhlradt, Peter F.**; Morr, Michael; Radolf, Justin D.; Zychlinsky, Arturo; Takeda, Kiyoshi; Akira, Shizuo
CORPORATE SOURCE: Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, and Core Research for Evolutional Science and Technology (CREST) of Japan Science and Technology Corp., Suita, 565-0871, Japan
SOURCE: International Immunology (2001), 13(7), 933-940
CODEN: INIMEN; ISSN: 0953-8178
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bacterial lipoproteins (BLP) trigger immune responses via Toll-like receptor 2 (TLR2) and their immunostimulatory properties are attributed to the presence of a lipoylated N-terminus. Most BLP are triacylated at the N-terminus cysteine residue, but mycoplasmal macrophage-activating lipopeptide-2 kDa (MALP-2) is only diacylated. Here the authors show that TLR6-deficient (TLR6-/-) cells are unresponsive to MALP-2 but retain their normal responses to lipopeptides of other bacterial origins. Reconstitution expts. in TLR2-/- TLR6-/- embryonic fibroblasts reveal that co-expression of TLR2 and TLR6 is absolutely required for MALP-2 responsiveness. Taken together, these results show that TLR6 recognizes MALP-2 cooperatively with TLR2, and appears to discriminate between the N-terminal lipoylated structures of MALP-2 and lipopeptides derived from other bacteria.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:419894 HCAPLUS
DOCUMENT NUMBER: 135:237880
TITLE: MALP-2, a Mycoplasma lipopeptide with classical endotoxic properties: end of an era of LPS monopoly?
AUTHOR(S): Galanos, C.; Gumenscheimer, M.; **Muhlradt, P. F.**; Jirillo, E.; Freudenberg, M. A.
CORPORATE SOURCE: Max-Planck Institut fur Immunbiologie, Freiburg, 79108, Germany
SOURCE: Journal of Endotoxin Research (2000), 6(6), 471-476
CODEN: JENREB; ISSN: 0968-0519
PUBLISHER: Maney Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Although some activities of LPS are shared by other bacterial components, for half a century LPS has been regarded as unique in displaying many pathophysiol. activities. Here we report on a synthetic lipopeptide,

MALP-2 from Mycoplasma fermentans, which expresses potent endotoxin-like activity and whose lethal toxicity is comparable to that of LPS. With the exception of the Limulus lysate gelation test, in which MALP-2 was approx. 1000-fold less active than LPS, the synthetic lipopeptide induced all activities tested for, and in most cases to an extent comparable to that of LPS. Unlike LPS, the biol. activities of MALP-2 were expressed both in LPS-responder and in LPS-non-responder mice (BALB/c/1, C57BL10/ScCr); indicating that MALP-2 signaling, unlike that of LPS, is not transduced via the Toll-like receptor (TIr) 4 protein. MALP-2 expressed no toxicity in normal or sensitized TIr2 knockout (TIr2-/-) mice indicating that its toxic activity is induced via TIr2 signaling. The phenomenol. of the lethal shock induced by MALP-2 in normal or sensitized mice, i.e. the kinetics of its development and symptoms of illness exhibited by the treated animals, was very reminiscent of the lethal shock induced by LPS.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:898315 HCAPLUS
DOCUMENT NUMBER: 134:161769
TITLE: Synergy and cross-tolerance between toll-like receptor (TLR) 2- and TLR4-mediated signaling pathways
AUTHOR(S): Sato, Shintaro; Nomura, Fumiko; Kawai, Taro; Takeuchi, Osamu; **Muhlradt, Peter F.**; Takeda, Kiyoshi; Akira, Shizuo
CORPORATE SOURCE: Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, Osaka, 565-0871, Japan
SOURCE: Journal of Immunology (2000), 165(12), 7096-7101
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A family of Toll-like receptor (TLR) mediates the cellular response to bacterial cell wall components; murine TLR2 and TLR4 recognize mycoplasmal lipopeptides (macrophage-activating lipopeptides, 2 kDa (MALP-2)) and LPS, resp. Costimulation of mouse peritoneal macrophages with MALP-2 and LPS results in a marked increase in TNF-.alpha. prodn., showing the synergy between TLR2- and TLR4-mediated signaling pathways. Macrophages pretreated with LPS show hyporesponsiveness to the second LPS stimulation, termed LPS tolerance. The LPS tolerance has recently been shown to be primarily due to the down-regulation of surface expression of the TLR4-MD2 complex. When macrophages were treated with MALP-2, the cells showed hyperresponsiveness to the second MALP-2 stimulation, like LPS tolerance. Furthermore, macrophages pretreated with MALP-2 showed reduced prodn. of TNF-.alpha. in response to LPS. LPS-induced activation of both NF-.kappa.B and c-Jun NH2-terminal kinase was severely impaired in MALP-2-pretreated cells. However, MALP-2-pretreated macrophages did not show any redn. in surface expression of the TLR4-MD2 complex. These findings indicate that LPS-induced LPS tolerance mainly occurs through the down-regulation of surface expression of the TLR4-MD2 complex; in contrast, MALP-2-induced LPS tolerance is due to modulation of the downstream cytoplasmic signaling pathways.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:52425 HCAPLUS
DOCUMENT NUMBER: 132:206889
TITLE: Cutting edge: preferentially the R-stereoisomer of the mycoplasmal lipopeptide macrophage-activating lipopeptide-2 activates immune cells through a toll-like receptor 2- and MyD88-dependent signaling

pathway
AUTHOR(S): Takeuchi, Osamu; Kaufmann, Andreas; Grote, Karsten; Kawai, Taro; Hoshino, Katsuaki; Morr, Michael; **Muhlradt, Peter F.**; Akira, Shizuo
CORPORATE SOURCE: Department of Host Defense, Research Institute for Microbial Diseases, Osaka University, Osaka, 565-0871, Japan
SOURCE: Journal of Immunology (2000), 164(2), 554-557
CODEN: JOIMA3; ISSN: 0022-1767
PUBLISHER: American Association of Immunologists
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mycoplasmas and their membranes are potent activators of macrophages, the active principle being lipoproteins and lipopeptides. Two stereoisomers of the mycoplasmal lipopeptide macrophage-activating lipopeptide-2 (MALP-2) differing in the configuration of the lipid moiety were synthesized and compared in their macrophage-activating potential, the R-MALP being >100 times more active than the S-MALP in stimulating the release of cytokines, chemokines, and NO. To assess the role of the Toll-like receptor (TLR) family in mycoplasmal lipopeptide signaling, the MALP-2-mediated responses were analyzed using macrophages from wild-type, TLR2-, TLR4-, and MyD88-deficient mice. TLR2- and MyD88-deficient cells showed severely impaired cytokine productions in response to R- and S-MALP. The MALP-induced activation of intracellular signaling mols. was fully dependent on both TLR2 and MyD88. There was a strong preference for the R-MALP in the recognition by its functional receptor, TLR2.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:768674 HCAPLUS
DOCUMENT NUMBER: 132:62973
TITLE: Induction of cytokines and chemokines in human monocytes by Mycoplasma fermentans-derived lipoprotein MALP-2
AUTHOR(S): Kaufmann, A.; **Muhlradt, P. F.**; Gemsa, D.; Sprenger, H.
CORPORATE SOURCE: Institute of Immunology, Philipps University, Marburg, D-35037, Germany
SOURCE: Infection and Immunity (1999), 67(12), 6303-6308
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Bacterial infections are characterized by strong inflammatory reactions. The responsible mediators are often bacterially derived cell wall mols., such as lipopolysaccharide or lipoteichoic acids, which typically stimulate monocytes and macrophages to release a wide variety of inflammatory cytokines and chemokines. Mycoplasmas, which lack a cell wall, may also stimulate monocytes very efficiently. This study was performed to identify mycoplasma-induced mediators. The authors investigated the induction of cytokines and chemokines in human monocytes exposed to the Mycoplasma fermentans-derived membrane component MALP-2 (macrophage-activating lipopeptide 2) by dose response and kinetic anal. The authors found a rapid and strong MALP-2-inducible chemokine and cytokine gene expression which was followed by the release of chemokines and cytokines with peak levels after 12 to 20 h. MALP-2 induced the neutrophil-attracting CXC chemokines interleukin-8 (IL-8) and GRO-.alpha. as well as the mononuclear leukocyte-attracting CC chemokines MCP-1, MIP-1.alpha., and MIP-1.beta.. Prodn. of the proinflammatory cytokines tumor necrosis factor alpha and IL-6 started at the same time as chemokine release but required 10- to 100-fold-higher MALP-2 doses. The data show that the mycoplasma-derived lipopeptide MALP-2 represents a potent inducer

of chemokines and cytokines which may, by the attraction and activation of neutrophils and mononuclear leukocytes, significantly contribute to the inflammatory response during mycoplasma infection.
REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:768671 HCAPLUS
DOCUMENT NUMBER: 132:76899
TITLE: Effect of MALP-2, a lipopeptide from Mycoplasma fermentans, on bone resorption in vitro
AUTHOR(S): Piec, Grazyna; Mirkovitch, Jelena; Palacio, Silvia; **Muhlradt, Peter F.**; Felix, Rolf
CORPORATE SOURCE: Department of Clinical Research, Bone Biology, University of Bern, Bern, CH-3010, Switz.
SOURCE: Infection and Immunity (1999), 67(12), 6281-6285
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mycoplasmas may be assocd. with rheumatoid arthritis in various animal hosts. In humans, mycoplasma arthritis has been recorded in assocn. with hypogammaglobulinemia. Mycoplasma fermentans is one mycoplasma species considered to be involved in causing arthritis. To clarify which mycoplasmal compds. contribute to the inflammatory, bone-destructive processes in arthritis, we used a well-defined lipopeptide, 2-kDa macrophage-activating lipopeptide (MALP-2) from M. fermentans, as an example of a class of macrophage-activating compds. ubiquitous in mycoplasmas, to study its effects on bone resorption. MALP-2 stimulated osteoclast-mediated bone resorption in murine calvaria cultures, with a maximal effect at around 2 nM. Anti-inflammatory drugs inhibited MALP-2-mediated bone resorption by about 30%. This finding suggests that MALP-2 stimulates bone resorption partially by stimulating the formation of prostaglandins. Since interleukin-6 (IL-6) stimulates bone resorption, we investigated IL-6 prodn. in cultured calvaria. MALP-2 stimulated the liberation of IL-6, while no tumor necrosis factor was detectable. Addnl., MALP-2 stimulated low levels of NO in calvaria cultures, an effect which was strongly increased in the presence of gamma interferon, causing an inhibition of bone resorption. MALP-2 stimulated the bone-resorbing activity of osteoclasts isolated from long bones of newborn rats and cultured on dentin slices without affecting their no. In bone marrow cultures, MALP-2 inhibited the formation of osteoclasts. It appears that MALP-2 has two opposing effects: it increases the bone resorption in bone tissue by stimulation of mature osteoclasts but inhibits the formation of new ones.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:412224 HCAPLUS
DOCUMENT NUMBER: 131:198535
TITLE: Mycoplasmal lipopeptide MALP-2 induces the chemoattractant proteins macrophage inflammatory protein 1.alpha. (MIP-1.alpha.), monocyte chemoattractant protein 1, and MIP-2 and promotes leukocyte infiltration in mice
AUTHOR(S): Deiters, Ursula; **Muhlradt, Peter F.**
CORPORATE SOURCE: Immunobiology Research Group, Gesellschaft fur Biotechnologische Forschung mbH, Braunschweig, D-38124, Germany
SOURCE: Infection and Immunity (1999), 67(7), 3390-3398
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Natural as well as exptl. infections with pathogenic mycoplasmas lead to cellular responses characterized by early polymorphonuclear leukocyte influx, which in turn is followed by infiltration of macrophages. Since some of the most potent leukocyte chemoattractants are macrophage products, the authors investigated whether the 2-kDa macrophage-activating lipopeptide (MALP-2) from Mycoplasma fermentans was capable of inducing chemoattractant chemokines and initiating an in vivo inflammatory effect. MALP-2 was a potent in vitro inducer of the chemokines macrophage inflammatory protein 1.alpha. (MIP-1.alpha.), monocyte chemoattractant protein 1 (MCP-1), and MIP-2, yielding a maximal response at 0.1 ng/mL (5.times.10-11 M). Leukocyte infiltration was detd. after i.p. injection of MALP-2, liposome-encapsulated MALP-2, and heat-killed mycoplasmas. There was a steady increase in the no. of peritoneal cells over 72 h in response to these agents. Polymorph counts were maximal by 24-48 h, decreasing thereafter. Monocytes/macrophages had increased after 3 days. MIP-1.alpha., MCP-1, and MIP-2 levels in serum or peritoneal lavage fluid were detd. MIP-1.alpha. and MCP-1 levels were elevated by 2-6 h after injection and were still above control values after 24 h. In contrast, MIP-2 levels reached their max. at 2 h, dropping to control values after 24 h. Thus, macrophage-stimulating mycoplasmal lipoproteins, exemplified by MALP-2, play an important role in the late phase of phagocyte recruitment at sites of infection and this is affected by leukoattractive chemokines.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:83299 HCAPLUS
DOCUMENT NUMBER: 130:293743
TITLE: Differential posttranslational processing confers intraspecies variation of a major surface lipoprotein and a macrophage-activating lipopeptide of Mycoplasma fermentans
AUTHOR(S): Calcutt, Michael J.; Kim, Mary F.; Karpas, Arthur B.; **Muhlradt, Peter F.**; Wise, Kim S.
CORPORATE SOURCE: Department of Molecular Microbiology and Immunology, School of Medicine, University of Missouri-Columbia, Columbia, MO, 65212, USA
SOURCE: Infection and Immunity (1999), 67(2), 760-771
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The malp gene of Mycoplasma fermentans is shown to occur in single copy but to encode two discrete translated forms of lipid-modified surface protein that can be differentially expressed on isolates within this species: MALP-2, a 14-amino-acid (2-kDa) lipopeptide with potent macrophage-stimulatory activity (P. F. Muhlradt, M. Kiess, H. Meyer, R. Sussmuth, and G. Jung, J. Exp. Med. 185:1951-1958, 1997), and MALP-404, an abundant, full-length (404-amino-acid) surface lipoprotein of 41 kDa, previously designated P41 (K. S. Wise, M. F. Kim, P. M. Theiss, and S.-C. Lo, Infect. Immun. 61:3327-3333, 1993). The sequences, transcripts, and translation products of malp were compared between clonal isolates of strains PG18 (known to express P41) and II-29/1 (known to express high levels of MALP-2). Despite conserved malp DNA sequences contg. full-length open reading frames and expression of full-length monocistronic transcripts in both isolates, Western blotting using a monoclonal antibody (MAb) to the N-terminal MALP-2 peptide revealed marked differences in the protein products expressed. Whereas PG18 expressed abundant MALP-404 with detectable MALP-2, II-29/1 revealed no MALP-404 even in samples contg. a large comparative excess of MALP-2. Colony

immunoblots with the MAb showed uniform surface expression of MALP-2 in II-29/1 populations. A second MAb to an epitope of MALP-404 outside the MALP-2 sequence predictably failed to stain II-29/1 colonies but uniformly stained PG18 populations. Collectively, these results provide evidence for novel post-transcriptional (probably posttranslational) processing pathways leading to differential intraspecies expression of a major lipoprotein, and a potent macrophage-activating lipopeptide, on the surface of M. fermentans. In the course of this study, a striking conserved motif (consensus, TD-G--DDKSFNQSAWE--), designated SLA, was identified in MALP-404; this motif is also distributed among selected lipoproteins and species from diverse bacterial genera, including Bacillus, Borrelia, Listeria, Mycoplasma, and Treponema. In addn., malp was shown to flank a chromosomal polymorphism. In eight isolates of M. fermentans examd., malp occurred upstream of an operon encoding the phase-variable P78 ABC transporter; but, in three of these isolates, a newly discovered insertion sequence, IS1630 (of the IS30 class), was located between these genes.

REFERENCE COUNT: 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:649612 HCAPLUS
DOCUMENT NUMBER: 130:24072
TITLE: Structure and specific activity of macrophage-stimulating lipopeptides from Mycoplasma hyorhinis
AUTHOR(S): **Muhlradt, Peter F.**; Kiess, Michael; Meyer, Holger; Sussmuth, Roderich; Jung, Gunther
CORPORATE SOURCE: Immunobiology and Structure Research Groups, Gesellschaft fur Biotechnologische Forschung mbH, Braunschweig, D-38124, Germany
SOURCE: Infection and Immunity (1998), 66(10), 4804-4810
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Mycoplasmas are potent macrophage stimulators. We describe the isolation of macrophage-stimulatory lipopeptides S-[2,3-bisacyl(C16:0/C18:0)oxypropyl]cysteinyl-GQTDNNSSQSQQPGSGTTNT and S-[2,3-bisacyl (C16:0/C18:0)oxypropyl]cysteinyl-GQTN derived from the Mycoplasma hyorhinis variable lipoproteins VlpA and VlpC, resp. These lipopeptides were characterized by amino acid sequence and compn. anal. and by mass spectrometry. The lipopeptides S-[2,3-bis(palmitoyloxy)propyl]cysteinyl-GQTNT and S-[2,3-bis(palmitoyloxy)propyl]cysteinyl-SKKKK and the N-palmitoylated deriv. of the latter were synthesized, and their macrophage-stimulatory activities were compared in a nitric oxide release assay with peritoneal macrophages from C3H/HeJ mice. The lipopeptides with the free amino terminus showed half-maximal activity at 3 pM regardless of their amino acid sequence; i.e., they were as active as the previously isolated M. fermentans-derived lipopeptide MALP-2. The macrophage-stimulatory activity of the addnl. N-palmitoylated lipopeptide or of the murein lipoprotein from Escherichia coli, however, was lower by orders of magnitude. It is concluded that the lack of N-acyl groups in mycoplasmal lipoproteins explains their exceptionally high in vitro macrophage-stimulatory capacity. Certain features that lipopolysaccharide endotoxin and mycoplasmal lipopeptides have in common are discussed. Lipoproteins and lipopeptides are likely to be the main causative agents of inflammatory reactions to mycoplasmas. This may be relevant in the context of mycoplasmas as arthritogenic pathogens and their assocn. with AIDS.

REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:560269 HCAPLUS
DOCUMENT NUMBER: 127:242883
TITLE: Epothilone B stabilizes microtubili of macrophages like taxol without showing taxol-like endotoxin activity
AUTHOR(S): **Muhlradt, Peter F.**; Sasse, Florenz
CORPORATE SOURCE: Gesellschaft fur Biotechnologische Forschung mbH, Arbeitsgruppe Immunbiologie, Braunschweig, D-38124, Germany
SOURCE: Cancer Research (1997), 57(16), 3344-3346
CODEN: CNREA8; ISSN: 0008-5472
PUBLISHER: American Association for Cancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Epothilones are a new class of potential antitumor compds. that were isolated from the myxobacterium Sorangium cellulosum. Epothilones have effects on the cytoskeleton similar to those of the antineoplastic drug Taxol. Both compds. inhibit cell proliferation by stabilizing microtubuli, and they compete for the same binding site. In addn., Taxol displays endotoxin-like properties in that it activates macrophages to synthesize proinflammatory cytokines and nitric oxide. We measured nitric oxide release by IFN-.gamma.-treated murine macrophages as an indicator of macrophage activation by epothilone B. Although epothilone B showed the expected effects on the microtubuli, there was no indication of macrophage stimulatory activity by epothilone B, nor did epothilone B inhibit lipopolysaccharide-mediated nitric oxide release. We conclude that, unlike Taxol, epothilone-mediated microtubuli stabilization does not trigger endotoxin-signaling pathways. Moreover, because the endotoxin-like activity of Taxol may be the cause of some nonhematol. clin. side effects, it is to be expected that such effects may not occur with epothilones.

L14 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:359321 HCAPLUS
DOCUMENT NUMBER: 127:92475
TITLE: Isolation, structure elucidation, and synthesis of a macrophage stimulatory lipopeptide from Mycoplasma fermentans acting at picomolar concentration
AUTHOR(S): **Muhlradt, Peter F.**; Kiess, Michael; Meyer, Holger; Sussmuth, Roderich; Jung, Gunther
CORPORATE SOURCE: Immunobiology and Structure Research Groups, Gesellschaft fur Biotechnologische Forschung mbH, Braunschweig, D-38124, Germany
SOURCE: Journal of Experimental Medicine (1997), 185(11), 1951-1958
CODEN: JEMEAV; ISSN: 0022-1007
PUBLISHER: Rockefeller University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Macrophages are typically stimulated by components of microbial cell walls. Surprisingly, cell wall-less mycoplasmas can also very efficiently stimulate macrophages. We showed recently that mycoplasma-derived lipopeptides constitute the active principle. We have now isolated a clone of Mycoplasma fermentans expressing mainly one macrophage-stimulating lipopeptide. This lipopeptide was detergent-extd. and isolated by reversed-phase high-performance liq. chromatog., using nitric oxide release from C3H/HeJ mouse macrophages as bioassay for detection. In contrast to "conventional" bacterial lipoproteins, this lipopeptide had a free NH2 terminus. Amino acid compn., sequence, and the mol. wt. of 2163.3 are consistent with the following structure: S-(2,3-bisacyloxypropyl)cysteine-GNNDESNISFKEK with one mole C16:0, and a further mode of a mixt. of C18:0 and C18:1 fatty acid per lipopeptide mol. The

sequence could not be found in either the protein identification resource nor the Swiss Prot data bank. We named this 2-kd lipopeptide, macrophage-activating lipopeptide-2 (MALP-2). Synthetic dipalmitoyl MALP-2 and mycoplasma-derived MALP-2 were compared with the bioassay. Both lipopeptides showed an identical dose dependency with a half-maximal response at 10-11 M concn. MALP-2 may be one of the most potent natural macrophage stimulators besides endotoxin.

L14 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1967:473496 HCAPLUS
DOCUMENT NUMBER: 67:73496
TITLE: Vitamin B6 analogs. Synthesis and biological activity of homologs of pyridoxal 5'-phosphate
AUTHOR(S): **Muhlradt, Peter F.**; Morino, Yoshimasa; Snell, Esmond E.
CORPORATE SOURCE: Univ. of California, Berkeley, CA, USA
SOURCE: Journal of Medicinal Chemistry (1967), 10(3), 341-4
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The synthesis from acyclic precursors of norpyridoxal 5'-phosphate (I) and .omega.-methyl-pyridoxal 5'-phosphate (II), compds. in which the Me group at position 2 of pyridoxal 5'-phosphate (PLP) has been replaced by H or C2H5, is described. Both compds. replace PLP as a coenzyme for purified glutamate-oxaloacetate apotransaminase (GOT) of pig heart, and for cryst. apotryptophanase (TPase) from Escherichia coli, but with varying effectiveness. I is a more efficient coenzyme than PLP for GOT, as judged either by its affinity for the apoenzyme, or the max. velocity of the reaction catalyzed by the reconstituted enzyme; II is less effective than PLP for both criteria. Both I and II are less effective than PLP as coenzymes for TPase. The results show that the methyl group of PLP is not a prerequisite for the coenzymic activity of this compd. 26 references.

NA

16,17

L14 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1967:115560 HCAPLUS
DOCUMENT NUMBER: 66:115560
TITLE: Vitamin B6 analogs. An improved synthesis of 5-deoxypyridoxal
AUTHOR(S): **Muhlradt, Peter F.**; Snell, Esmond E.
CORPORATE SOURCE: Univ. of California, Berkeley, CA, USA
SOURCE: Journal of Medicinal Chemistry (1967), 10(1), 129-30
CODEN: JMCMAR; ISSN: 0022-2623
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB cf. Kuroda, CA 62, 515e. Pyridoxine-HCl in acetone was treated with dry HCl to give I which was converted in three steps (see reaction scheme) to the title compd. (II).

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=> d stat que l16
L14          17 SEA FILE=HCAPLUS ABB=ON  PLU=ON  ("MUHLRADT P F"/AU OR
                "MUHLRADT PETER F"/AU)
L15          41 SEA FILE=HCAPLUS ABB=ON  PLU=ON  "DEITERS U"/AU OR "DEITERS U
                K"/AU OR ("DEITERS URSULA"/AU OR "DEITERS URSULA"/IN)
L16          39 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15 NOT L14


=> d ibib abs l16 1-39

L16 ANSWER 1 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER:        2003:79475  HCAPLUS
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DOCUMENT NUMBER: 138:227115
TITLE: Monte Carlo simulations of nitrogen using an ab initio potential
AUTHOR(S): Leonhard, K.; **Deiters, U. K.**
CORPORATE SOURCE: Universitat zu Koln, Institut fur Physikalische Chemie, Koln, 50939, Germany
SOURCE: Molecular Physics (2002), 100(15), 2571-2585
CODEN: MOPHAM; ISSN: 0026-8976
PUBLISHER: Taylor & Francis Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new ab initio pair potential for nitrogen has been calcd. at CCSD(T) level with aug-cc-pVDZ and -pVTZ correlation consistent basis sets. The results were extrapolated to approx. the basis set limit. This potential was used within Gibbs ensemble Monte Carlo (GEMC) simulations to obtain the densities of the coexisting phases, the vapor pressure and the enthalpy of vaporization from 70 K to close to the crit. point. The influence of several 3-body interactions (an approx. anisotropic triple dipole potential derived by Stogryn, the isotropic triple dipole potential by Axilrod and Teller (AT), and a 3-body induction potential) on the above mentioned properties were investigated. Satisfactory agreement with exptl. data was obsd. To det. whether the remaining deviations between exptl. and computed data are due to inaccuracies in the 2-body or 3-body potentials, the 2-body potential was rescaled to reproduce exptl. 2nd virial coeffs. accurately, and some of the calcns. were repeated with the new potential. An accurate 2-body potential only in connection with the AT potential yields accurate results for the thermodn. properties of phase equil.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 2 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:102585 HCAPLUS
DOCUMENT NUMBER: 136:157010
TITLE: Comment on S. Bobbo, L. Fedele, M. Scattolini, and R. Camporese, Int. J. Thermophys. 21:781 (2000): vapor + liquid equilibrium measurements and correlation of the binary refrigerant mixtures difluoromethane (HFC-32) + 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) and pentafluoroethane (HFC-125) + 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) at 288.6, 303.2, and 318.2 K
AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Institute of Physical Chemistry, University at Cologne, Koln, D-50939, Germany
SOURCE: International Journal of Thermophysics (2001), 22(6), 1869-1870
CODEN: IJTHDY; ISSN: 0195-928X
PUBLISHER: Kluwer Academic/Plenum Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A polemic in response to S. Bobbo et al. (ibid. 2000, 21, 781). The polemizing author underlines that HFC-236ea used in the original work could be not a pure compd. but a mixt. of two enantiomers. Therefore, the mixts. studied should be considered not binary but ternary. It would be very important to make clear whether the measurements applied to the mixts. contg. HFC-236ea racemate or the pure enantiomer.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:405667 HCAPLUS
DOCUMENT NUMBER: 135:82479

TITLE: Shape effects on the thermodynamic properties of dense fluid mixtures of enantiomers
AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Institute of Physical Chemistry, University at Cologne, Koln, D-50939, Germany
SOURCE: Fluid Phase Equilibria (2001), 182(1-2), 17-26
CODEN: FPEQDT; ISSN: 0378-3812
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The excess vols. of fluid mixts. are evidently related to fluid structure. Esp. at high densities, they should be very sensitive to packing effects, and thus, to the shape of mols. In order to sep. the shape effects from effects of attractive interactions, model fluids consisting of fused-hard-sphere mols. with realistic dimensions have been studied. This work esp. deals with mixts. of enantiomers. Extensive Monte Carlo simulations, using the NpT ensemble technique as well as a newly developed multiensemble technique for the direct detn. of excess vols., have been performed for two chiral mols., CHFClI and 4-vinylcyclohexene. In both cases, weakly pos. excess vols. occur at high pressures. Thermodn. arguments point to an instability of the investigated racemic mixts. at high pressures, which might induce demixing or a conversion reaction and finally lead to a spontaneous imbalance of enantiomers in macroscopic phases. The importance of this observation for the origin of biol. enantioselectivity on Earth is discussed.
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 4 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:405665 HCAPLUS
DOCUMENT NUMBER: 135:66861
TITLE: Preface
AUTHOR(S): Boublik, T.; de Loos, T. W.; **Deiters, U. K.**
CORPORATE SOURCE: Laboratory of Applied Thermodynamics and Phase Equilibria, Department of Chemical Technology, Delft University of Technology, Delft, 2628 BL, Neth.
SOURCE: Fluid Phase Equilibria (2001), 182(1-2), 1-2
CODEN: FPEQDT; ISSN: 0378-3812
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A concise review is presented; for refs. the following e-mail window can be used: <mawhite@chem1.chem.dal.ca>. The paper describes general subjects of symposia that took place in the framework of the 16 th IUPAC Conference on Chem. Thermodn. The Conference was held on 6-11 August 2000 in Nova Scotia, Canada.

L16 ANSWER 5 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:753076 HCAPLUS
DOCUMENT NUMBER: 133:325894
TITLE: Monte Carlo simulations of neon and argon using ab initio potentials
AUTHOR(S): Leonhard, K.; **Deiters, U. K.**
CORPORATE SOURCE: Institut fur Physikalische Chemie, Universitat zu Koln, Koln, 50939, Germany
SOURCE: Molecular Physics (2000), 98(20), 1603-1616
CODEN: MOPHAM; ISSN: 0026-8976
PUBLISHER: Taylor & Francis Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Gibbs ensemble Monte Carlo simulations of neon and argon have been performed with pair potentials taken from literature as well as with new ab initio potentials from just above the triple point to close to the

crit. point. The densities of the coexisting phases, their pair correlation functions, the vapor pressure and the enthalpy and entropy of vaporization have been calcd. The influence of the potential choice and of the addn. of the Axilrod-Teller (AT) three-body potential on the above mentioned properties have been investigated. It turns out that an accurate ab initio two-body potential in connection with the AT potential yields very good results for thermodn. properties of phase equil.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 6 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:753094 HCAPLUS
DOCUMENT NUMBER: 131:346566
TITLE: Use of lipopeptides or lipoproteins for wound treatment
INVENTOR(S): Muehlradt, Peter; **Deiters, Ursula**
PATENT ASSIGNEE(S): Gesellschaft fuer Biotechnologische Forschung m.b.H. (GBF), Germany
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9959610	A2	19991125	WO 1999-EP3436	19990519
WO 9959610	A3	20000120		
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19822820	A1	19991125	DE 1998-19822820	19980520
CA 2328418	AA	19991125	CA 1999-2328418	19990519
AU 9942643	A1	19991206	AU 1999-42643	19990519
AU 756107	B2	20030102		
EP 1077717	A2	20010228	EP 1999-952073	19990519
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002515446	T2	20020528	JP 2000-549274	19990519

PRIORITY APPLN. INFO.: DE 1998-19822820 A 19980520
WO 1999-EP3436 W 19990519

OTHER SOURCE(S): MARPAT 131:346566

AB A Mycoplasma lipopeptide or lipoprotein which on the N-terminus has a dihydroxypropylcysteine group with 2 possibly long-chain fatty acids linked by esterlike bonds is useful for treatment of wounds in humans or other animals. These lipopeptides and lipoproteins and their synthetic analogs stimulate the release of cytokines and prostaglandins by macrophages and induce high titers of chemokines in macrophages. The lipopeptides may be incorporated into liposomes or attached to a biodegradable carrier. Thus, synthetic R-MALP-2 [S-[2,3-bispalmitoyloxy-(2R)-propyl]cysteinyl-GNNDESNISFKEK] was incorporated into phospholipid-cholesterol liposomes which were resuspended in NaCl and injected i.p. into mice. The injection induced a marked migration of granulocytes and other leukocytes into the peritoneum. Intracutaneous injection of R-MALP-2 induced aggregation of leukocytes and formation of new tissue and blood vessels.

L16 ANSWER 7 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:358089 HCAPLUS
DOCUMENT NUMBER: 131:93152
TITLE: Experiments [in chemical thermodynamics]?-no thank you!

AUTHOR(S): **Deiters, U. K.**; Hloucha, M.; Leonhard, K.
CORPORATE SOURCE: Institute of Physical Chemistry, University at Cologne, Cologne, D-50939, Germany
SOURCE: Chemical Thermodynamics (1999), 187-195. Editor(s): Letcher, Trevor. Blackwell: Oxford, UK. CODEN: 67SFAQ
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB Thermodn. properties can be calcd. from some selected function; such as the thermal equation of state, the fundamental equation or Helmholtz energy function, or the Gibbs energy function. These functions can be detd. using statistical thermodn., the science that relates thermodn. functions to intermol. potentials. Quantum mechanics must then be invoked to investigate the reasons for the interaction forces between mols. Computer simulations (mol. dynamics and Monte Carlo) can then be performed once accurate pair potentials have been established. A discussion with 9 refs.
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 8 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:290445 HCAPLUS
DOCUMENT NUMBER: 130:302360
TITLE: Special Issue on the 3rd International Workshop on Vapour-Liquid Equilibria and Related Properties in Binary and Ternary Mixtures of Ethers, Alkanes and Alkanols, held 30-31 July 1998, in Porto, Portugal. [In: Fluid Phase Equilib., 1999; 156(1,2)]
AUTHOR(S): **Deiters, U. K.**; Dymond, J. H.; Editors
CORPORATE SOURCE: Neth.
SOURCE: (1999) Publisher: (Elsevier: Amsterdam, Neth.), 236 pp.
DOCUMENT TYPE: Book
LANGUAGE: English
AB Unavailable

L16 ANSWER 9 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:257792 HCAPLUS
TITLE: Preface
AUTHOR(S): **Deiters, U. K.**; Dymond, J. H.
SOURCE: Fluid Phase Equilibria (1999), 156(1,2), 1-2 CODEN: FPEQDT; ISSN: 0378-3812
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal; Miscellaneous
LANGUAGE: English
AB Unavailable
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 10 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:18258 HCAPLUS
DOCUMENT NUMBER: 130:158986
TITLE: New mechanism of establishing four-phase equilibria in two-component fluids
AUTHOR(S): **Deiters, U. K.**; Boshkov, L. Z.; Elash, L. V.; Mazur, V. A.
CORPORATE SOURCE: Cologne Univ., Germany
SOURCE: Doklady Akademii Nauk (1998), 359(3), 343-347 CODEN: DAKNEQ; ISSN: 0869-5652
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The authors used the Redlich-Kwong equation of state to find and study the

equil. in four-phase systems (one gaseous and three liq. phases of different compn. and d.) in two-component fluids outside the F region.

L16 ANSWER 11 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:809135 HCAPLUS
DOCUMENT NUMBER: 130:130440
TITLE: Prediction of high-temperature immiscibility islands in two-components fluids
AUTHOR(S): **Deiters, U. K.**; Boshkov, L. Z.; Elash, L. V.; Mazur, V. A.
CORPORATE SOURCE: Kiel Univ., Kiel, Germany
SOURCE: Doklady Akademii Nauk (1998), 358(4), 497-501
CODEN: DAKNEQ; ISSN: 0869-5652
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Double crit. end cusps were thermodynamically described and directly calcd. in the framework of the Redlich-Kwong model for the global phase diagram of two-component fluids. High-temp. immiscibility islands were theor. predicted for gas-liq. equil. systems. For the islands, closed-loops of liq.-liq. immiscibility emerge and disappear in the limited temp. interval above the crit. temp. of one of the components.

L16 ANSWER 12 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:800553 HCAPLUS
DOCUMENT NUMBER: 130:138264
TITLE: Activation of nuclear factor-.kappa.B in macrophages by mycoplasmal lipopeptides
AUTHOR(S): Sacht, Gudrun; Maerten, Angela; **Deiters, Ursula**; Suessmuth, Roderich; Jung, Guenther; Wingender, Edgar; Muehlradt, Peter F.
CORPORATE SOURCE: Immunobiology Research Group, Gesellschaft Biotechnologische Forschung m.b.H., Braunschweig, D-38124, Germany
SOURCE: European Journal of Immunology (1998), 28(12), 4207-4212
CODEN: EJIMAF; ISSN: 0014-2980
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mycoplasmas are potent macrophage stimulators. The active principle are lipopeptides or lipoproteins with a characteristic N-terminal S-[dihydroxypropyl]-cysteinyl group bearing 2 ester-bound fatty acids and lacking the amide-bound one common to other bacterial lipoproteins. Using synthetic analogs of mycoplasmal lipopeptides, the authors investigated activation of the transcription factor NF-.kappa.B in the C3H/HeJ mouse-derived DMBM-3 cell line. The lipopeptides activated NF-.kappa.B at below nanomolar concns. Activation in the murine system occurred distinctly earlier than TNF-.alpha. liberation, excluding autocrine stimulation by TNF-.alpha.. As detd. from a supershift expt., the active NF-.kappa.B complex consisted of the heterodimer p50/p65(RelA). The relevance of these findings for the inflammatory response to mycoplasmas and for mycoplasma-mediated effects on HIV-infected macrophages is discussed.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 13 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:297364 HCAPLUS
DOCUMENT NUMBER: 129:32533
TITLE: Fast coding of the minimum image convention
AUTHOR(S): Hloucha, M.; **Deiters, U. K.**
CORPORATE SOURCE: Institut fur Physikalische Chemie, Universitat zu

Koln, Koln, D-50939, Germany
SOURCE: Molecular Simulation (1998), 20(4), 239-244
CODEN: MOSIEA; ISSN: 0892-7022
PUBLISHER: Gordon & Breach Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors compare various algorithms for the implementation of the min. image convention in mol.-dynamics and Monte Carlo simulations. On many platforms algorithms with if statements are most efficient.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 14 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:182081 HCAPLUS
TITLE: Guidelines for publication of equations of state-I. Pure fluids
AUTHOR(S): **Deiters, U. K.**; De Reuck, K. M.
CORPORATE SOURCE: Inst. Physikalische Chem., Univ. Koln, Koln, D-50939, Germany
SOURCE: Chemical Engineering Journal (Lausanne) (1998), 69(1), 69-81
CODEN: CMEJAJ; ISSN: 1385-8947
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal; Miscellaneous
LANGUAGE: English
AB Unavailable
REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 15 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:497422 HCAPLUS
DOCUMENT NUMBER: 127:195747
TITLE: Guidelines for publication of equations of state. I. Pure fluids
AUTHOR(S): **Deiters, U. K.**; De Reuck, K. M.
CORPORATE SOURCE: Inst. Physikalische Chemie, Univ. Koeln, Cologne, D-50939, Germany
SOURCE: Pure and Applied Chemistry (1997), 69(6), 1237-1249
CODEN: PACHAS; ISSN: 0033-4545
PUBLISHER: Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The publication should constitute and advancement in concept or in quant. performance (the latter should be demonstrated). The publication should enable readers to decide whether they want to use it or not. The publication should help readers to program and use the equation of state.

L16 ANSWER 16 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:336259 HCAPLUS
TITLE: Gerhard Schneider - sixtyfifth birthday
AUTHOR(S): **Deiters, U. K.**
SOURCE: Berichte der Bunsen-Gesellschaft (1997), 101(5), 872-873
CODEN: BBPCAX; ISSN: 0940-483X
PUBLISHER: VCH
DOCUMENT TYPE: Journal; Biography
LANGUAGE: English
AB Unavailable

L16 ANSWER 17 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:198733 HCAPLUS
DOCUMENT NUMBER: 126:321390
TITLE: Monte Carlo simulations of acetonitrile with an

anisotropic polarizable molecular model
AUTHOR(S): Hloucha, M.; **Deiters, U. K.**
CORPORATE SOURCE: Inst. Physikalische Chemie, Univ. Koeln, Cologne, D-50939, Germany
SOURCE: Molecular Physics (1997), 90(4), 593-597
CODEN: MOPHAM; ISSN: 0026-8976
PUBLISHER: Taylor & Francis
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Monte Carlo simulations of liq. acetonitrile were performed using the NVT ensemble. The acetonitrile mols. were modeled as fused hard sphere cores with embedded point dipoles and anisotropic point polarizability. The long-range forces were taken into account with the reaction field method. The induced dipole moments of the mols., the dielec. const., the dipole-dipole interaction energy, and the energy of polarization were calcd. for various densities and temps. For comparison, other Monte Carlo simulations were performed with an isotropic polarizability.

L16 ANSWER 18 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:79432 HCAPLUS
DOCUMENT NUMBER: 126:162827
TITLE: Calculation of high-pressure phase equilibria involving light gases
AUTHOR(S): Kohlbruch, J.; **Deiters, U. K.**
CORPORATE SOURCE: Institute of Physical Chemistry, University at Cologne, Koln, D-50939, Germany
SOURCE: Process Technology Proceedings (1996), 12(High Pressure Chemical Engineering), 451-456
CODEN: PTPREM; ISSN: 0921-8610
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new correction function for quantum effects in fluids is proposed, which can be coupled to any van der Waals type equation of state. With the new quantum correction, calcns. of thermodn. properties of hydrogen and hydrogen-contg. mixts. are significantly improved.

L16 ANSWER 19 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:79424 HCAPLUS
DOCUMENT NUMBER: 126:162824
TITLE: Application of a generalized van der Waals equation of state to several nonpolar mixtures at high pressures
AUTHOR(S): Van Nhu, Nguyen; **Deiters, U. K.**
CORPORATE SOURCE: Institute of Technical Chemistry, Technical University Munich, Garching, D-85747, Germany
SOURCE: Process Technology Proceedings (1996), 12(High Pressure Chemical Engineering), 405-410
CODEN: PTPREM; ISSN: 0921-8610
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A recently developed equation of state on the basis of the generalized van der Waals model (GvdW-EOS) was applied to the calcn. of thermodn. properties of mixts. Only one adjustable mixing parameter for the crit. temp. of the equiv. substance is required. Good agreement with exptl. data for vapor-liq. and liq.-liq. equil. was obtained over a large temp. range for 29 binary mixts. The agreement of mixt. vols. is also satisfactory. Comparison with the Trebble-Bishnoi-Salim (TBS) equation showed that predictions of volumetric and the liq.-liq. phase equil. data are significantly better with the new equation of state, esp. at very high pressures.

L16 ANSWER 20 OF 39 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:948246 HCAPLUS
TITLE: High Pressure Phase Behavior of Multicomponent Fluid Mixtures edited by R. J. Sadus
AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Ruhr-Universitat Bochum, Bochum, D-4630, Germany
SOURCE: Fluid Phase Equilibria (1995), 112(1), 169-70
CODEN: FPEQDT; ISSN: 0378-3812
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal; Book Review
LANGUAGE: English
AB Unavailable

L16 ANSWER 21 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:586038 HCAPLUS
DOCUMENT NUMBER: 123:41887
TITLE: The excess molar Gibbs energy of nuclidic liquid mixtures
AUTHOR(S): Calado, J. C. G.; **Deiters, U. K.**; Lopes, J. N. C.; Rebelo, L. P. N.
CORPORATE SOURCE: Centro Quimica Estrutural, Instituto Superior Tecnico, Lisbon, 1096, Port.
SOURCE: Berichte der Bunsen-Gesellschaft (1995), 99(5), 721-9
CODEN: BBPCAX; ISSN: 0940-483X
PUBLISHER: VCH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The calcn. of GmE from VLE measurements was extended to multicomponent systems including those where chem. reactions can occur. For nuclide mixts., the methods have to be adapted in order to take into account the similarity of the mixt. components and the pseudo-multicomponent characteristics of a system with isotopic exchange. Bigeleisen's theory of isotope effects can then be used to calc. self-exchange equil. consts. in the liq. phase at low temps. and the vapor pressure of partially substituted nuclides. The formalism is applied to some relevant cases, namely those of water and ammonia.

L16 ANSWER 22 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:482504 HCAPLUS
DOCUMENT NUMBER: 122:248943
TITLE: The equation of state for molecules with shifted Lennard-Jones pair potentials
AUTHOR(S): **Deiters, U. K.**; Randzio, S. L.
CORPORATE SOURCE: Institute of Physical Chemistry, University at Cologne, Luxemburger Str. 116, Cologne, D-50939, Germany
SOURCE: Fluid Phase Equilibria (1995), 103(2), 199-212
CODEN: FPEQDT; ISSN: 0378-3812
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Compressibility factors and internal energies have been calcd. for fluids with softly repulsive pair potentials by means of the Maxwell distribution method. The pair potentials used are Lennard-Jones potentials, truncated at the min. and with the min. shifted towards zero energy. The exponent of attraction has been varied between 4 and 8, the exponent of repulsion between 8 and 40. An empirical equation of state has been developed which permits the calcn. of thermodn. properties for all truncated Lennard-Jones potentials. When this equation of state is substituted for the hard-sphere term in simple equations of state of the var der Waals type, a better representation of caloric data is obtained, esp. over the high d. region.

L16 ANSWER 23 OF 39 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:396691 HCAPLUS
DOCUMENT NUMBER: 122:171297
TITLE: Global phase behavior based on the simplified-perturbed hard-chain equation of state
AUTHOR(S): van Pelt, A.; Peters, C. J.; de Swaan Arons, J.; **Deiters, U. K.**
CORPORATE SOURCE: Fac. Chem. Eng. and Maters. Sci., Delft Univ. Technol., Delft, 2628 BL, Neth.
SOURCE: Journal of Chemical Physics (1995), 102(8), 3361-75
CODEN: JCPSA6; ISSN: 0021-9606
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The equation of state that results from the simplified-perturbed hard-chain theory (SPHCT) has been used to calc. phase diagrams for binary fluid mixts. and to classify these phase diagrams in accordance with the system of van Konynenburg and Scott. For mols. with equal or similar sizes, the global phase diagrams are similar to the ones obtained with the van der Waals, Redlich-Kwong, and Carnahan-Starling-Redlich-Kwong equation of state. In addn. to the types I-V, one can calc. also types VI, VII, and VIII with the SPHCT equation. For mols. with large size differences two new, main types of phase behavior have been discovered. We propose to call then type IX and X.

L16 ANSWER 24 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:280820 HCAPLUS
DOCUMENT NUMBER: 120:280820
TITLE: An equation of state for pure fluids describing the critical region
AUTHOR(S): Kraska, T.; **Deiters, U. K.**
CORPORATE SOURCE: Ruhr-Univ., Bochum, D-44780, Germany
SOURCE: International Journal of Thermophysics (1994), 15(2), 261-81
CODEN: IJTHDY; ISSN: 0195-928X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB D. fluctuations of a pure fluid are treated by a cell model, in which the fluid is divided into cells contg. different nos. of particles. A probability function for the particle no. is derived. This function, after convolution with a classical (mean field) equation of state, leads to an improved equation of state which is valid in the crit. region. The equation of state is anal., hence not exact in the immediate vicinity of the crit. point. As an example, the convolution is applied to the Carnahan-Statling/van der Waals equation of state; the resulting equation of state is used to correlate thermodn. properties of several simple fluids.

L16 ANSWER 25 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:133714 HCAPLUS
DOCUMENT NUMBER: 120:133714
TITLE: Application of an EOS chain association theory to the calculation of thermodynamic properties of (alkane + 1-alkanol) mixtures
AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Ruhr-Univ., Bochum, D-4630/1, Germany
SOURCE: Fluid Phase Equilibria (1993), 89(1), 229-42
CODEN: FPEQDT; ISSN: 0378-3812
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Chain assocn. theory has been extended to account for mol. vol. changes during the formation of hydrogen bonds. A non-cubic equation of state in connection with this chain assocn. theory is used to correlate vapor-liq. equil. of four test mixts.: hexane + methanol, hexane + ethanol, hexane +

1-hexanol, and decane + 1-butanol. Calcd. excess enthalpies and excess vols. are in good agreement with exptl. data.

L16 ANSWER 26 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:679081 HCAPLUS
DOCUMENT NUMBER: 119:279081
TITLE: The limiting behavior of the Simplified-Perturbed-Hard-Chain Theory at high temperatures
AUTHOR(S): Van Pelt, A.; **Deiters, U. K.**; Peters, C. J.; De Swaan Arons, J.
CORPORATE SOURCE: Fac. Chem. Eng. Mater., Delft Univ. Technol., Delft, 2628, Neth.
SOURCE: Fluid Phase Equilibria (1993), 90(1), 45-56
CODEN: FPEQDT; ISSN: 0378-3812
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this investigation it will be shown that the equation of state that results from the Simplified-Perturbed-Hard-Chain Theory, obeys the high-temp. condition at zero d. Although the Deiters equation of state behaves differently compared with the SPHCT equation at higher densities, the limiting behavior at zero d. and high temps. of both equations is identical. The test method, proposed by U. K. Deiters (1979, 1983), shows that the equations that are normally used in chem. engineering, like the Peng-Robinson and the Redlich-Kwong equation, do not fulfill the high temp. boundary condition at zero d. It is dangerous to use those equations for extrapolation over a large temp. range, esp. if mols. with low characteristic temps., e.g., H2 and N2, are involved. In this paper it is shown that the D. method is a math. simple and useful method to test the validity of the attractive term at high temps.

L16 ANSWER 27 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:629063 HCAPLUS
DOCUMENT NUMBER: 119:229063
TITLE: Application of the Taylor Dispersion method in supercritical fluids
AUTHOR(S): Sengers, J. M. H. Levelt; **Deiters, U. K.**; Klask, U.; Swidersky, P.; Schneider, G. M.
CORPORATE SOURCE: Thermophys. Div., Natl. Inst. Stand. Technol., Gaithersburg, MD, 20899, USA
SOURCE: International Journal of Thermophysics (1993), 14(4), 893-922
CODEN: IJTHDY; ISSN: 0195-928X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Some of the exptl. and theor. problems encountered when the Taylor dispersion method is applied to the measurement of diffusion coeffs. near gas-liq. crit. points were described. Measurements of diffusion of C6H6 and PhMe in supercrit. CO2, along with measurements from several other sources, were used to illustrate some of the exptl. results, with special attention given to peak shape. The intercomparisons were simplified by comparing the exptl. data as functions of d. rather than pressure. Large and unexplained discrepancies were obsd. between the various exptl. sources. The theor. predictions for the relationships between the diffusion coeffs. and diffusivities obtained from Taylor dispersion and dynamic light scattering in fluids near crit. points were discussed, with the conclusion that there is no strong reason to press for Taylor dispersion measurements near the gas-liq. crit. point of the carrier gas.

L16 ANSWER 28 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:12662 HCAPLUS
DOCUMENT NUMBER: 112:12662
TITLE: Extended one-fluid theory for mixtures containing nonspherical molecules

AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Ruhr Univ. Bochum, Bochum, D-4630, Fed. Rep. Ger.
SOURCE: Fluid Phase Equilibria (1989), 48, 185-95
CODEN: FPEQDT; ISSN: 0378-3812
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An approx. method is proposed that relates the thermodn. properties of mixts. of nonspherical mols. to those of mixts. of spherical mols. It is formulated as a one-fluid theory with d.-dependent mixing rules contg. two non-integer exponents. The spherical exponent retains the functional dependence on concn. and d. that it has in the case of mixts. of spheres. The nonspherical exponent was obtained by Monte Carlo simulation of mixts. of hard spheres and fused spheres (di- and triatomics); it depends little on d., mol. shape, or compn. For a long-ranged pair potential its value is close to 1; for a square-well potential of range 1.5 the value is close to 0.8. The effects of mol. size and of shape can be sepd. The new mixing rule was used in connection with a non-cubic equation of state for the calcn. of phase equil. in binary fluid mixts. under high pressure. The representation of isotherms at different temps. and of crit. curves was improved significantly.

L16 ANSWER 29 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:614574 HCAPLUS
DOCUMENT NUMBER: 105:214574
TITLE: High pressure phase equilibria: Experimental methods
AUTHOR(S): **Deiters, U. K.**; Schneider, G. M.
CORPORATE SOURCE: Ruhr-Univ. Bochum, Bochum, D-4630/1, Fed. Rep. Ger.
SOURCE: Fluid Phase Equilibria (1986), 29, 145-60
CODEN: FPEQDT; ISSN: 0378-3812
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with about 33 refs. Some recently developed exptl. methods are reviewed and classified with respect to the obsd. thermodn. properties. Several devices and exptl. procedures for the detn. of phase equil. are explained. The advantages and limitations of these different methods are discussed.

L16 ANSWER 30 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:174826 HCAPLUS
DOCUMENT NUMBER: 104:174826
TITLE: Integrals over pair- and triplet-correlation functions for the Lennard-Jones (12-6)-fluid
AUTHOR(S): Luckas, M.; Lucas, K.; **Deiters, U.**; Gubbins, K. E.
CORPORATE SOURCE: Fachgebiet Thermodyn., Univ. Duisburg, Duisburg, 4100, Fed. Rep. Ger.
SOURCE: Molecular Physics (1986), 57(2), 241-53
CODEN: MOPHAM; ISSN: 0026-8976
DOCUMENT TYPE: Journal
LANGUAGE: English

AB New interpolation equations are given for some typical integrals over pair- and triplet-correlation functions of a Lennard-Jones (12-6)-fluid. These integrals extend over a large region of states, and can easily be differentiated with respect to d. and temp. The integrals over the triplet-correlation function were simulated in Monte-Carlo calcns., thus avoiding the use of the superposition approxn. The performance of this approxn. is briefly discussed.

L16 ANSWER 31 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:96855 HCAPLUS
DOCUMENT NUMBER: 104:96855
TITLE: Excess enthalpies for (ethanol + water) at 298.15 K and pressures of 0.4, 5, 10, and 15 MPa

AUTHOR(S): Ott, J. B.; Stouffer, C. E.; Cornett, G. V.; Woodfield, B. F.; Wirthlin, R. C.; Christensen, J. J.; **Deiters, U. K.**
CORPORATE SOURCE: Dep. Chem., Brigham Young Univ., Provo, UT, 84602, USA
SOURCE: Journal of Chemical Thermodynamics (1986), 18(1), 1-12
CODEN: JCTDAF; ISSN: 0021-9614
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The design and construction of a modified isothermal-flow calorimeter with a reproducibility of better than 0.5% is described. This app. was used to measure the heat of mixing for ethanol + water at 298.15 K and pressures of 0.4, 5, 10, and 15 MPa. The 0.4 MPa values are in excellent agreement with published values at atm. pressure. A fitting equation was developed which gives a good fit of the results over the compn. and pressure ranges investigated.

L16 ANSWER 32 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:621896 HCAPLUS
DOCUMENT NUMBER: 103:221896
TITLE: Theoretical methods for the prediction of phase equilibria in hydrogen-containing mixtures
AUTHOR(S): Chokappa, D.; Clancy, P.; Streett, W. B.; **Deiters, U. K.**; Heintz, A.
CORPORATE SOURCE: Sch. Chem. Eng., Cornell Univ., Ithaca, NY, 14853, USA
SOURCE: Chemical Engineering Science (1985), 40(10), 1831-41
CODEN: CESCAC; ISSN: 0009-2509
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The ability of various theor. methods to accurately predict vapor-liq. equil. in H-contg. binary mixts. with N2, Ar, CO, CO2, CH4, C2H4, C2H6 was investigated. These methods include both traditional cubic equations of state (the Peng-Robinson and original Redlich-Kwong) and an equation of state due to U. R. Deiters (1981, 1983). Calcns. are also performed with a spherical ref. based perturbation theory. The results of all 3 approaches are compared to recent exptl. data by Streett and co-workers. The cubic equations provide an adequate representation of the data for the simpler fluid but not for the more complex ones (e.g. C2H4, C2H6). The Deiters equations give very good results for all but the most complex fluid mixts. The perturbation theory results are somewhat mixed, being unexpectedly poor for the simplest fluids (Ar, N2) but improving with the mol. complexity of the fluid to provide the best description of the H-ethylene and H-ethane mixts., the hardest to predict by using equation of state methods.

L16 ANSWER 33 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1985:155720 HCAPLUS
DOCUMENT NUMBER: 102:155720
TITLE: Calculation of equilibria between fluid and solid phases in binary mixtures at high pressures from equations of state
AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Ruhr-Univ., Bochum, Fed. Rep. Ger.
SOURCE: Fluid Phase Equilibria (1985), 20, 275-82
CODEN: FPEQDT; ISSN: 0378-3812
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The Redlich-Kwong equation and a 3-parameter equation of state (D., 1981, 1982), in connection with appropriate mixing rules, were used to derive expressions for the Gibbs energy and to evaluate the thermodn. conditions of fluid-fluid phase equil. in binary mixts. With little addnl. information, it is possible to extend this theory to equil. between a fluid mixt. and a pure solid phase, so that melting diagrams, solid-vapor equil., and solid-liq.-gas three-phase lines can be computed. Isothermal

fluid-fluid (vapor-liq. and gas-gas) and solid-fluid phase diagrams calcd. for several binary mixts. of nonpolar substances for pressures up to 200 MPa. The Redlich-Kwong equation represents the exptl. data well at low pressures only, whereas the results of the other equation of state agree well with the exptl. data even at very high pressures. It is possible to predict solid-fluid equil. from fluid-fluid equil. data successfully.

L16 ANSWER 34 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:636272 HCAPLUS
DOCUMENT NUMBER: 101:236272
TITLE: Calculation of fluid-fluid and solid-fluid phase equilibria in binary mixtures at high pressures
AUTHOR(S): **Deiters, U. K.**; Swaid, I.
CORPORATE SOURCE: Ruhr-Univ., Bochum, Fed. Rep. Ger.
SOURCE: Berichte der Bunsen-Gesellschaft (1984), 88(9), 791-6
CODEN: BBPCAX; ISSN: 0005-9021
DOCUMENT TYPE: Journal
LANGUAGE: English
AB By integrating an equation of state, an expression for the Gibbs energy of binary fluid mixts. is derived and used to definite the thermodn. conditions of phase equil. These conditions are solved numerically for the equil. concns. The same equation of state is used for liq. and vapor phases. From addnl. solid d. data and the sublimation/melting pressure, solid-liq. and solid-gas equil. can be calcd., provided that no miscibility occurs in the solid state. Calcns. of phase equil. were carried out for several binary mixts. of nonpolar substances (noble gases, CO2, hydrocarbons) for pressures up to 200 MPa, by using the Redlich-Kwong equation and our equation of state, which was published earlier (1981, 1982). The Redlich-Kwong equation represents the exptl. phase equil. data at low pressures only, whereas the other equation achieves good agreement over the whole pressure range. If the mols. differ very much in size, deviations from one-fluid theory can be accounted for by using the Leland-Mansoori-Carnahan-Starling function for rigid sphere mixts. in the repulsion term of our equation of state.

L16 ANSWER 35 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:13306 HCAPLUS
DOCUMENT NUMBER: 100:13306
TITLE: Special aspects of the calculation of phase equilibria in cryogenic mixtures at very high pressures
AUTHOR(S): **Deiters, U. K.**
CORPORATE SOURCE: Dep. Chem., Univ. Bochum, Bochum, D-4630/1, Fed. Rep. Ger.
SOURCE: Fluid Phase Equilibria (1983), 13, 109-20
CODEN: FPEQDT; ISSN: 0378-3812
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A simple quantum correction is proposed, which is based on a cell model and can be applied to any van der Waals type equation of state. In combination with a semiempirical equation of state developed by Deiters (1981), crit. compressibility factors of several light gases were calcd. Phase equil. of mixts. contg. H2 or He were calcd. for very high pressures and the effect of the quantum correction and the mixing rules on the agreement between exptl. and calcd. data is discussed.

L16 ANSWER 36 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1983:582492 HCAPLUS
DOCUMENT NUMBER: 99:182492
TITLE: The extension of pure fluid thermodynamic properties to supercritical mixtures. A comparison of current theories with computer data over a large region of states
AUTHOR(S): Hoheisel, C.; **Deiters, U.**; Lucas, K.

CORPORATE SOURCE: Lehrst. Theor. Chem., Ruhr-Univ. Bochum, Bochum, D-4630, Fed. Rep. Ger.
SOURCE: Molecular Physics (1983), 49(1), 159-70
CODEN: MOPHAM; ISSN: 0026-8976
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Current theories which are used to extend thermodn. properties of pure fluids to supercrit. mixts. were examd. Emphasis was placed on a large variation of potential parameter ratios and d. While the van der Waals 1st approxn. was generally the best, its predictions are considerably poorer at supercrit. conditions than in the normal liq. range.

L16 ANSWER 37 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1981:21184 HCAPLUS
DOCUMENT NUMBER: 94:21184
TITLE: Phase equilibriums in the systems hydrogen/methane, hydrogen/carbon monoxide, and hydrogen/carbon dioxide from 70 to 260 K and pressures to 2000 bars
AUTHOR(S): Streett, W. B.; Tsang, C.; **Deiters, U.**; Calado, J. C. G.
CORPORATE SOURCE: Cornell Univ., Ithaca, NY, USA
SOURCE: EFCE Publication Series (1980), 11(Phase Equilib. Fluid Prop. Chem. Ind.), 39-44
CODEN: EPSEDI
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Vapor-liq. equil. were studied at 70-260 K and .ltoreq.2000 bars for the H2-CH4, H2-CO and H2-Cl2 systems. The results were compared to the predictions from the Peng-Robinson, Redlich-Kwong and Deiters equations of state.

L16 ANSWER 38 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1978:66128 HCAPLUS
DOCUMENT NUMBER: 88:66128
TITLE: A molecular dynamics study of the liquid mixture chloroform/carbon tetrachloride on the basis of Lennard-Jones type potentials
AUTHOR(S): Hoheisel, C.; **Deiters, U.**
CORPORATE SOURCE: Lehrstuhl Theor. Chem., Ruhr-Univ., Bochum, Fed. Rep. Ger.
SOURCE: Berichte der Bunsen-Gesellschaft (1977), 81(12), 1225-30
CODEN: BBPCAX; ISSN: 0005-9021
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The liq. mixt. CHCl3/CCl4 is investigated by mol. dynamics calcns. based on (18-6) Lennard-Jones type potentials. Self-diffusion coeffs. are in good agreement with expt. over the whole concn. range, and the thermodn. results are satisfactory compared with calcd. values obtained by a semiempirical method due to Redlich and Kwong. The pair-distribution functions show the usual behavior of "Lennard-Jones liqs.".

L16 ANSWER 39 OF 39 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1977:79490 HCAPLUS
DOCUMENT NUMBER: 86:79490
TITLE: Fluid mixtures at high pressures. Computer calculations of the phase equilibriums and the critical phenomena in fluid binary mixtures from the Redlich-Kwong equation of state
AUTHOR(S): **Deiters, U.**; Schneider, G. M.
CORPORATE SOURCE: Inst. Phys. Chem., Univ. Bochum, Bochum, Fed. Rep. Ger.
SOURCE: Berichte der Bunsen-Gesellschaft (1976), 80(12),

1316-21
CODEN: BBPCAX; ISSN: 0940-483X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB By using the Redlich-Kwong equation of state (RD-equation), thermodn. relations are derived from which the phase equilibria and the crit. phenomena in fluid binary systems can be calcd. at high pressures. From the relations, p-T diagrams and p-x diagrams are calcd. for binary mixts. with components differing considerably in structure, mol. size and/or polarity (80 K to 500 K; up to 3 kbar): quadratic mixing rules are assumed for the 2 parameters of the RK-equation. All kinds of phase equilibria and crit. phenomena hitherto known can be represented in reasonable good agreement with exptl. data.

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L61          114 SEA FILE=REGISTRY ABB=ON  PLU=ON  GQTNT/SQSP
L62        20304 SEA FILE=REGISTRY ABB=ON  PLU=ON  SKKK/SQSP
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L68           20 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L63
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L70  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:        2003:55957  HCAPLUS
DOCUMENT NUMBER:         138:84323
TITLE:                   Generation and initial analysis of more than 15,000
                         full-length human and mouse cDNA sequences
AUTHOR(S):               Strausberg, Robert L.; Feingold, Elise A.; Grouse,
                         Lynette H.; Derge, Jeffery G.; Klausner, Richard D.;
                         Collins, Francis S.; Wagner, Lukas; Shenmen, Carolyn
                         M.; Schuler, Gregory D.; Altschul, Stephen F.;
                         Zeeberg, Barry; Buetow, Kenneth H.; Schaefer, Carl F.;
                         Bhat, Narayan K.; Hopkins, Ralph F.; Jordan, Heather;
                         Moore, Troy; Max, Steve I.; Wang, Jun; Hsieh,
                         Florence; Diatchenko, Luda; Marusina, Kate; Farmer,
                         Andrew A.; Rubin, Gerald M.; Hong, Ling; Stapleton,
                         Mark; Soares, M. Bento; Bonaldo, Maria F.; Casavant,
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Tom L.; Scheetz, Todd E.; Brownstein, Michael J.; Usdin, Ted B.; Toshiyuki, Shiraki; Carninci, Piero; Prange, Christa; Raha, Sam S.; Loquellano, Naomi A.; Peters, Garrick J.; Abramson, Rick D.; Mullahy, Sara J.; Bosak, Stephanie A.; McEwan, Paul J.; McKernan, Kevin J.; Malek, Joel A.; Gunaratne, Preethi H.; Richards, Stephen; Worley, Kim C.; Hale, Sarah; Garcia, Angela M.; Gay, Laura J.; Hulyk, Stephen W.; Villalon, Debbie K.; Muzny, Donna M.; Sodergren, Erica J.; Lu, Xiuhua; Gibbs, Richard A.; Fahey, Jessica; Helton, Erin; Ketteman, Mark; Madan, Anuradha; Rodrigues, Stephanie; Sanchez, Amy; Whiting, Michelle; Madan, Anup; Young, Alice C.; Shevchenko, Yuriy; Bouffard, Gerard G.; Blakesley, Robert W.; Touchman, Jeffrey W.; Green, Eric D.; Dickson, Mark C.; Rodriguez, Alex C.; Grimwood, Jane; Schmutz, Jeremy; Myers, Richard M.; Butterfield, Yaron S. N.; Krzywinski, Martin I.; Skalska, Ursula; Smailus, Duane E.; Schnerch, Angelique; Schein, Jacqueline E.; Jones, Steven J. M.; Marra, Marco A.

CORPORATE SOURCE: National Cancer Institute, NIH, Bethesda, MD, 20892-2580, USA

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (2002), 99(26), 16899-16903
CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The National Institutes of Health Mammalian Gene Collection (MGC) Program is a multiinstitutional effort to identify and sequence a cDNA clone contg. a complete ORF for each human and mouse gene. ESTs were generated from libraries enriched for full-length cDNAs and analyzed to identify candidate full-ORF clones, which then were sequenced to high accuracy. The MGC has currently sequenced and verified the full ORF for a nonredundant set of >9000 human and >6000 mouse genes. Candidate full-ORF clones for an addnl. 7800 human and 3500 mouse genes also have been identified. All MGC sequences and clones are available without restriction through public databases and clone distribution networks. [This abstr. record is one of eleven records for this document necessitated by the large no. of index entries required to fully index the document and publication system constraints.].

IT **479951-65-0**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(amino acid sequence; generation and initial anal. of more than 15,000 full-length human and mouse cDNA sequences)

RN 479951-65-0 HCAPLUS

CN Membrane protein, palmitoylated 6 (MAGUK p55 subfamily member 6) (human clone MGC:29522 IMAGE:4875100) (9CI) (CA INDEX NAME)

SEQ
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     51 AVSDNNLELV NEILEDITPL INVDENVAEL VGILKEPHFQ SLLEAHDIVA
    101 SKCYDSPPSS PEMNNSSINN QLLPVDAIRI LGIHKRAGEP LGVTFRVENN
    151 DLVIARILHG GMIDRQGLLH VGDIIKEVNG HEVGNNPKEL QELLKNISGS
    201 VTLKILPSYR DTITPQQVFV KCHFDYNPYN DNLIPCKEAG LKFSKGEILQ
    251 IVNREDPNWW QASHVKEGGS AGLIPSQFLE EKRKAFVRRD WDNSGPFCGT
    301 ISSKKKKKMM YLTTRNAEFD RHEIQIYEEV AKMPPFQRKT LVLIGAQGVG
    351 RRSLKNRFIV LNPTRFGTTV PFTSRKPRED EKDGQAYKFV SRSEMEADIK
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